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ABSTRACT

This report describes a workshop organized by the government of Kenya and UNESCO (United Nations Educational, Scientific, and Cultural Organization) to consider an intervention project to address the health, nutrition, and education concerns of school-age children. Part 1 of the report reviews the background and objectives of the workshop and discusses topics relevant to education and health. Topics include: (1) the effects of health and nutrition conditions on children's educational outcomes; (2) the democratization of schooling in Kenya; (3) the effects of economic factors on the provision of basic education and health services; (4) challenges for educational planning; and (5) Kenya's school milk program. Part 2 outlines the education and health situations in four districts in which the first phase of the proposed project is to be implemented. Problems such as inadequate school facilities, poor roads and communication, poverty and malnutrition, low teacher morale, and high dropout rates are identified. Figures and tables accompany the text. Field visits made by workshop participants to schools, homes, and communities in six areas in the Nakuru district are also highlighted in part 2. Part 3 describes the planning of project assessment activities and outlines the next steps in the implementation of the project. A list of workshop participants, the workshop agenda, and texts of several addresses made to the workshop are appended. (BC)

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Government of Kenya/UNESCO

NATIONAL PLANNING WORKSHOP

"Child Health, Nutrition and School Participation"

Nakuru, Kenya
29 October to 2 November 1990

by

Susan Van der Vynckt, Ph.D. and John A. Nkinyangi, Ph.D.

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Government of Kenya/UNESCO
NATIONAL PLANNING WORKSHOP
"Child Health, Nutrition and School Participation"

This is the Report of a joint National Workshop organized by the Government of Kenya and UNESCO to consider and plan a possible intervention project to address the health, nutrition, and education concerns of school-age children. The origins of the endeavour and the relevant background papers are summarized in **Part One** of the report. **Part Two** provides outlines of the education and health situations in the four districts (Kisumu, Kwale, Meru, and Nakuru) where the Government of Kenya has decided to base the first phase of the proposed project. This part of the report is enriched by detailed, and often graphic accounts, from a day of "observational field visits" by organized teams of workshop participants to different parts of Nakuru District -- an innovative feature of the entire workshop and planning process. The district education and health reports as well as the field observations provided the basis for a common understanding of the problems and issues relating to participation in primary education and the prevalent health and nutrition concerns of school-age children especially in the more disadvantaged communities and areas of the country. **Part Three** of the report provides a summary of the discussion of the planning of various project assessment activities as well as an outline of the next steps towards the implementation of the first phase of the project.

ACKNOWLEDGEMENTS

This report synthesizes the insights and wealth of information shared during the ***National Planning Workshop****. The account of our discussions reflects the collective thinking of all participants. As the Workshop unfolded, those from education and health found that concerns for the welfare of children have no sectoral boundaries. Meeting education needs and health needs are not separate and independent goals. It will be the vision, commitment and action from those in education and health alike that will make the difference.*

Our deliberations in Nakuru moved from theory to reality as we visited schools, homes and health facilities in the District. Talking with teachers, interacting with children in the classrooms, discussing with parents about the schooling of their children and gathering information on health issues in the community from local health workers made us appreciate the relevance and complexity of the task ahead. In poorer communities, learning is taking place under difficult conditions. Many classrooms are crowded, poorly equipped and ventilated. Natural lighting makes it difficult for some children to fully participate in classroom work. The sanitary conditions of schools we visited were unsatisfactory. Children are often ill and hungry. Teachers are not immune to burdens of ill health; many miss school for sickness and other reasons. Teachers also get discouraged in their work. Despite it all, we were touched by the hope we found in the eyes of the children we encountered.

The Workshop was meant to be the starting point for collaborative efforts between the sectors with support from UNESCO. This collaboration started immediately after our departure from Nakuru. An education and health team visited each of the four districts and began an intensive effort to identify a representative sample of schools and corresponding health centres in which to carry out our investigations and test various approaches to improve the learning environment and the health and nutrition of children. Without the cooperation and technical inputs of the District Education Officers and the Medical Officers of Health in Kisumu, Kwale, Nakuru and Meru, this follow-up would not have been possible.

Honourable Matthew A. Karauri, Assistant Minister for Education, the Permanent Secretary of Education, Mr. B.K. Kipkulei, and the Permanent Secretary of Health, Mr. D. Mbiti, have sustained throughout the preparation and follow-up of this workshop support for this collaborative initiative. Mr. Richard Towett, Deputy Director of Education in Charge of School Milk and School Feeding Programme Division, Ministry of Education and the members of the Inter-Ministerial Coordinating Committee have given endless hours of their time. We wish to thank Ms. Cecilia Nyagah, Education Officer, Ministry of Education, and Ms. Pamela Malebe, Nutritionist, Division of Family Health, Ministry of Health, for all their assistance in the preparation, organization and follow-up of the workshop.

Special appreciation is given to the Federal Republic of Germany for its financial contribution to the Workshop.

S. Van der Vynckt and J.A. Nkinyangi

12 February 1991

Government of Kenya/UNESCO
NATIONAL PLANNING WORKSHOP

"Child Health, Nutrition and School Participation"

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PART ONE

1. Background of the Workshop

In April 1989 an international expert group met in Stockholm, Sweden, to advise UNESCO on the planning of a new international initiative on *"child health, nutrition and school participation.*[1] The group included people from education, nutrition and public health fields and representatives from concerned United Nations agencies (e.g., World Health Organization, UNICEF, World Bank and World Food Programme). The meeting examined links between child health, nutrition and educational participation and considered possibilities for improving child health, nutrition and learning opportunities. The Stockholm consultation concluded that there remain important information and knowledge gaps as regards the health and nutrition status of school-age children and the extent to which prevalent nutrition and health conditions may be influencing children's access, participation and progression through school.

As follow-up to these deliberations, UNESCO supported a series of scholarly analytical studies to examine the health and nutrition situation of school-age children in the developing world and the extent to which poor health and malnutrition may be hindering children's opportunities for primary education. This work included a review of existing scientific research on the impact of poor nutrition and disease on educational outcomes; a prevalence study of parasitic infections and a review of infection control strategies; a country case study of the school health and nutrition programmes in the Philippines and a comparative analysis of primary education trends in sub-Saharan Africa.[2]

In November 1989, UNESCO undertook a planning visit to Zimbabwe to begin working with the Government there on the conceptualization of a country project which would address the health and nutrition needs of school-

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[1]UNESCO convened this meeting at the Wenner-Gren Center Foundation with funding support from Wenner-Gren Center Foundation and the Swedish International Development Authority (SIDA).

[2]E. Pollitt, *Malnutrition and Infection in the Classroom*, Paris, UNESCO, 1990; D. A. Bundy and H. L. Guyatt *Global Distribution of Parasitic Worm Infections*, Paris, UNESCO, 1989; K. Warren, D. A. Bundy, R. Anderson, A. R. Davies, D. A. Henderson, D. T. Jamison, N. Prescott and A. Senft, *Evolving Health Priorities in Developing Countries*, Chapter 18 co-sponsored by UNESCO on "Helminth Infections," [Draft], Washington, D.C., World Bank, 1990; C. Florencio, *School Health and Nutrition Problems and Programs in the Philippines*, Paris, UNESCO, 1990; *Stagnation and Decline in Primary Enrolments in Sub-Saharan Africa: A Cross National Analysis*, J.A. Nkinyangi, Paris, UNESCO, 1990.

age children in disadvantaged communities of the country.[3] Prompted by the interest expressed by the Government of Zimbabwe in working together on a project of this nature, UNESCO proceeded to identify other Member States particularly concerned with the welfare of school-age children and willing to collaborate on similar types of projects. To initiate the planning and technical exchanges with these countries, UNESCO organized an international workshop at its Paris Headquarters in February 1990 for *"country teams"* from four Member States (Kenya, Jamaica, Thailand and Zimbabwe) consisting of a representative from the Ministry of Education and a representative from the Ministry of Health. An important part of this workshop was devoted to "country team" work; each of the "country teams" and UNESCO resource persons drafted preliminary project outlines of the next steps for consideration by UNESCO and the relevant authorities in the participating countries. The Kenya *"country team"* report outlined specific and concrete steps for project development.[4] As one of the immediate first steps, it was recommended that preparatory work be undertaken by UNESCO and Kenya which would involve a UNESCO Expert Mission for project identification.

Following the international workshop in Paris, UNESCO soon after hosted the 16th Session of the United Nations Sub-Committee on Nutrition (19-23 February 1990) which included a Technical Symposium on nutrition and schooling, also in Paris. The education and health "country teams" participating in the international workshop were also invited to this symposium. Representatives of the United Nations agencies and bilateral donor agencies on this United Nations Coordinating Committee endorsed a **Statement on Nutrition, Health and School Performance:**

> *"The United Nations Sub-Committee on Nutrition is of the view that the education sector should give increased importance to the control of health and nutrition problems of school-age children ... in particular, the Committee enthusiastically acknowledges UNESCO's recent efforts in initiating and stimulating interest and action in this*

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[3]The mission was carried out with support from SIDA. See *Preliminary Project Description: Zimbabwe Primary School Health and Nutrition Project*, Paris, UNESCO, 1989.

[4]Representatives from Kenya included: Mr. Richard K. Arap Towett, Deputy Director of Education in charge of School Feeding Programmes, Ministry of Education and Ms. Benta Shako, Senior Nutritionist, Ministry of Health. A report of the workshop and recommendations to the Government of Kenya for follow-up actions were prepared by these two representatives along with Professor John A. Nkinyangi, Kenyan national and UNESCO resource person, University of California, Los Angeles. The report prepared by the Kenya "country team" --- *Nutrition, Health and Educational Participation in Kenya: A Report on a UNESCO International Workshop and Recommendations for Follow-up Action* --- was subsequently transmitted to the Ministry of Education and the Ministry of Health.

*area and its effective catalytic role in pulling together other agencies and the scientific community on this issue. The Committee recommends that, having laid the groundwork, **UNESCO** will now take the leadership role in developing a programme to fulfil the potential for this important, but heretofore, largely neglected area."*[5]

At the **World Conference on Education for All** which took place in Jomtien, Thailand in March 1990, UNESCO organized a topical Roundtable which examined the links between health, nutrition and school outcomes. The Kenya Minister for Education, **Hon. Peter Oloo Aringo**, served as chairperson of this roundtable.[6] National delegates at this Roundtable encouraged UNESCO to gather experience from developing countries to demonstrate the extent to which nutrition and health problems may be contributing to the present "education crisis" and the growing problem of *"de-schooling"* of children. An issue of particular concern raised during the UNESCO Roundtable related to the importance of problems of child health and nutrition within the wider context of development in order to understand the complexity of factors determining educational participation among economically and socially deprived populations. It was recommended that UNESCO test approaches which address the nutrition and health concerns of school-age children, especially those in deprived areas, and then, disseminate widely experiences gained among those countries in the developing world where policy concern in school nutrition and health issues is expressed.

UNESCO convened a **Second Expert Meeting** in May 1990 which brought together a number of Third World scholars and senior Ministry of Education and Ministry of Health officials from selected countries. The Kenya Assistant Minister of Education, **Hon. Matthew Karauri**, represented his country. The Honourable Minister reported that his Government has had many years of experience in running programmes that address the educational and health needs of school age children including policies extending access to different levels of schooling, school feeding programmes by communities and government in arid and semi-arid areas (ASAL). Some of these programmes operate through the Ministry of Education while others are collaborative efforts among government, local communities, non-governmental organizations, and

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[5]This **statement** was subsequently communicated by UNESCO to all Ministries of Education at the **World Conference on Education For All**. The **statement** was subsequently communicated by the Director-General of UNESCO to the Heads of United Nations Agencies in April 1990 at the meeting of the United Nations Administrative Committee on Coordination (ACC). The ACC endorsed the statement **[DECISION/10 1990]**.

[6]The lead presentations of the UNESCO roundtable were made by Professor Cecilia Florencio, Department of Nutrition, University of the Philippines and Professor John A. Nkinyangi, UCLA.

international donor agencies. In addition to these efforts the Ministry of Health has an enlightened primary health care programme and a well-established school health programme which focuses on health education, environmental education and basic immunizations.

An important limitation in Kenya, however, has been that few attempts have been made despite a number of nutrition and health surveys to determine the prevalence of nutrition and health conditions among school-age children and the extent to which these conditions may be affecting access to school in the first place, and for children already in school, their attendance patterns, performance, and whether or not they complete schooling. Furthermore, much of the data and information on the school health and nutrition programmes are not available in a systematized form for wider dissemination.

Following the Second Stockholm Expert Meeting, UNESCO and the Government of Zimbabwe convened a **National Planning Workshop** for the elaboration of the Zimbabwe project which was attended by senior-level officials from the Ministry of Education, the Ministry of Health, the Ministry of Community and Cooperative Development, the Ministry of Local Government, the Ministry of Rural and Urban Development, and the Ministry of Agriculture along with education and health officers from four provinces. An important goal of this workshop was to plan the Zimbabwe country project which will test methods and approaches for addressing issues of children's poor health and nutrition and the impact of these and other factors on children's general welfare and access and progression through schooling.[7]

The Government of Kenya invited UNESCO in June 1990 to assist the Ministry of Education and the Ministry of Health in exploring the feasibility of launching an *intersectoral project* with UNESCO which would: (a) address the health and nutrition concerns of school-age children in deprived areas of the country; (b) investigate the extent to which health and nutrition conditions may be affecting children's participation in primary education; and (c) examine the impact of public social and economic policies on families and their ability during times of economic austerity to meet the basic needs of their children.

In preparation for the project identification mission, UNESCO commissioned an analysis of current trends in primary enrolments in Kenya. This analysis is considered especially relevant to the present project and the

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[7] S. Van der Vynckt and J.A. Nkinyangi, *Final Report of the UNESCO/Government of Zimbabwe National Planning Workshop on "Child Health, Nutrition and School Participation*, Paris, UNESCO, 1990.

extent to which it is aimed at understanding and addressing underlying issues of equity and increasing or diminishing educational participation along gender, class, ethnic and geographical lines.[8] The UNESCO Preparatory Mission visited educational and health institutions in selected parts of the country and held discussions with teachers, parents, school children, health care providers and senior Government officials in a number of districts, and in Nairobi. Following these field visits the team worked closely with the Ministry of Education and the Ministry of Health on the elaboration of a **National Planning Workshop** to examine more fully the efficacy of a school health and nutrition project.[9]

In September 1990, UNESCO received a grant from the Federal Republic of Germany to fund the **Kenya National Planning Workshop**. It was agreed that one of the main purposes of the meeting would be to work out the operational methodology for the intersectoral project (e.g., inter-ministerial cooperation and responsibilities in planning and implementation, project baseline research activities, and monitoring and evaluation of project intervention strategies, partnerships among government agencies, national universities [e.g., Kenyatta University], district-level organizations and community groups).

2. Opening of the Workshop

The **Assistant Minister for Education, Hon. Matthew Karauri** officially opened the Workshop with a speech by the Minister for Education, Hon. Peter Oloo Aringo which first underscored that the welfare of children is the concern of all sectors. He hoped that the Workshop would lead to greater awareness of the contribution that each sector can make to improving the *quality of life* of children. Through deliberations and exchanges between those in education and health, it should be possible to identify problems which may be hindering children's educational participation (e.g., poor nutrition and diseases) and suggest possible intervention measures. [See ANNEX.] He indicated that educational outcome measures, such as attendance, performance, repetition and drop-outs may be influenced by common health and nutrition problems especially in disadvantaged areas of the country.

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[8] J. A. Nkinyangi, *A National Analysis of Primary School Enrolments in Kenya*, Paris, UNESCO, 1990.

[9] This team consisted of Ms. Cecilia Nyagah, Ministry of Education, Ms. Pamela Malebe, Ministry of Health, Dr. Susan Van der Vynckt, UNESCO, Paris, and Professor J. Nkinyangi, UNESCO Adviser, University of California, Los Angeles. The National Planning Workshop would be similar to the one convened by the Government of Zimbabwe/UNESCO, June 1990.

The Minister summarized earlier initiatives of the Government of Kenya undertaken since the late 1970s to improve children's health and school participation. These programmes represent 9% of the primary education budget. Kenya spends 40% of its national budget on education; 60% of the education budget goes to primary education, mainly to the payment of teachers salaries. The National School Milk Programme was established through a Presidential Directive in May 1979 and is designed to supply milk to all primary school children twice a week throughout the school year (0.2 litres of milk are to be given to primary school children on two different days of the week).

Another effort representing a joint Government of Kenya/World Food Programme (WFP) undertaking provides a mid-day meal to pre-primary and primary school children in 4,300 establishments in arid and semi-arid areas of the country. Presently, 791,000 children are being fed through this programme. Another school feeding activity which is run by the National School Feeding Council of Kenya encourages school feeding activities in areas where parents can afford to sustain the programme themselves. The Government of Kenya provides a yearly grant to the National School Feeding Council to supplement contributions from other Non-Governmental Organizations and individuals.

It was also noted that under the new 8-4-4 System of Education (eight years of primary, four of secondary, and four of university), the teaching of *home science* is compulsory in primary schools and offers the possibility to provide teaching/learning opportunities relevant to child health and nutrition. Home science is also offered as an *elective* at the secondary level.

Considered of high priority by the Ministry of Education are issues relating to the "quality of education" such as the availability of adequate physical and educational facilities and qualified personnel. The Ministry believes that association between health and nutrition factors and quality of education needs further attention and, it is hoped, that through this collaborative effort with UNESCO there will be, on the one hand, greater understanding of determinants of educational participation and, on the other, practical experience with regard to ways and means of improving the delivery of educational services.

Mr. D. Mbiti, Permanent Secretary, Ministry of Health, delivering a speech on behalf of his Ministry, stressed that there are very few projects that the Ministry of Education and the Ministry of Health have undertaken jointly. The present Workshop represents the starting point for such collaboration; it should provide a forum for understanding the common concern for the welfare

of the nation's children and the planning of a concerted cooperative project addressing the health, nutrition and educational needs of school age children. [See ANNEX.]

The Permanent Secretary indicated that an important dimension of the country's Primary Health Care Programme is concerned with *Child Survival* actions which are targetted at children under five years of age and include growth monitoring, control of diarrhoeal diseases, promotion of breastfeeding, immunization, micro-nutrient supplementation. Although efforts have been made to establish school health programmes, these have met with little success. The collaborative project to be discussed and planned during the workshop, will offer the opportunity for the Ministry of Health to build upon its successful *Child Survival Programmes* so as to guarantee optimal health and nutrition for the school-age children. The Permanent Secretary assured participants that his Ministry will be a full partner in the project to be developed.

3. Objectives of the Workshop

On behalf of UNESCO, **Dr. Susan Van der Vynckt** said that her organization hoped this workshop would provide the opportunity to agree upon goals and objectives and begin to elaborate a collaborative Government of Kenya/UNESCO project on **child health, nutrition and educational participation**. Such a project, UNESCO believes, will offer the opportunity to develop and test *intersectoral strategies* to improve the health, nutrition and schooling of children in disadvantaged communities in selected districts of the country which represent a rough cross-section of life conditions in Kenya. Important to the development of these intervention strategies, she stressed, will be baseline assessments to better understand the complexity and inter-relatedness of issues surrounding the health, nutrition and learning needs of school-age children during times of economic austerity. With this understanding, it should be possible to develop approaches that can meet the needs of disadvantaged children and actually make a difference in their *quality of life*.

It will be important to evaluate carefully the impact of project actions in terms of the extent to which they are able to improve the health of school-age children and their educational participation. A critical consideration in these evaluation efforts will be to take a hard look at cost implications and the value and feasibility of scaling-up such types of interventions to be able to reach disadvantaged school-age children throughout the country.

It should also be possible to learn from the collaborative project how best to design programmes for improving the welfare and learning environment of school-age children within present economic constraints. The project should avoid creating dependency on outside resources and expertise. Such an approach, UNESCO feels, falls apart once additional resources are withdrawn. The type of assistance UNESCO hopes to provide through this project is that which will eventually lead to self-reliance; and that which leads to empowering communities --- the ordinary people ---- parents and families, to better manage their own lives and that of their children. Finally, the activities and results from this project will provide valuable direction for policy and planning in education and health.

Dr. Van der Vynckt explained how the Kenya country project is an important component in the new **UNESCO International Initiative on Child Health, Nutrition and School Participation** which includes, in the first phase, gathering experience in developing countries in analyzing and addressing health and nutrition problems of school-age children in deprived communities which may be having impact on access to and participation in primary education. The main goals of this initiative are: (1) to develop and implement in selected countries *intersectoral strategies* to improve the health and nutrition of primary school-age children living in disadvantaged communities; (2) to further, at the international level, analytical work on primary enrolment trends in developing countries and the extent to which child health, nutrition and welfare are contributing to present inequities in learning opportunities in terms of both poor access and interrupted progression with schooling; and, (3) for those countries working with UNESCO on projects, to share each others' experiences in implementing selected interventions addressing the health and nutrition needs of school-age children, and more generally, to disseminate among concerned developing countries and other international organizations available knowledge and experience on the status of children and their *"right to optimal health"* and *"basic learning"*.

4. Health, Nutrition and Educational Outcomes

Dr. Van der Vynckt provided an overview of the current state of knowledge about the health and nutrition conditions among school age children and the effects of such conditions on learning and school participation. She indicated that over the past few years there has been an accumulation of research findings from different countries documenting associations between nutrition, health and children's school participation. A recent UNESCO

scientific review quantifies some of the adverse educational consequences of ill-health and malnutrition (Pollitt, 1990). It can be inferred from this UNESCO analysis that common nutrition and health conditions may play a role in determining a child's readiness for school, a child's ability to attend school regularly and learn and progress in school.

Effects of nutrition and health during the early years of life are potentially capable of having long-term consequences that can affect a child's history in formal education. Children's readiness for school is determined, in part, by a child's physical development, aptitudes, and motivation to learn. Such characteristics are particularly vulnerable to the long-lasting effects of malnutrition and infection during the pre-school years. Poor nutrition and health conditions during the school period add to the developmental consequences of earlier malnutrition.

A number of prevalent nutrition and health conditions are shown to affect school participation and educational outcomes (e.g., recent studies from Kenya and a number of other countries report significant findings on the relationships between poor health, nutrition and school outcomes. Consistently, better nutritional history and better present nutritional status are associated with higher cognitive test scores or better school performance. Nutritionally-stunted children are found to enrol later and drop out earlier than their normal size peers. A study in Kenya shows an association between children's height and weight, daily food intake and duration of schooling. In the Philippines, children with good nutritional status were found better able to concentrate in school and scored significantly higher on mental ability tests. A significant positive relationship was found between academic achievement and nutritional status even after controlling for effects relevant to school, teachers, household and pupil-related variables. In the developing world, undernutrition resulting from protein-energy malnutrition is the foremost nutritional deficiency often resulting from deficient diets which can be exacerbated by parasitic infection, micro-nutrient deficiencies and, most always, poverty. The evidence is unequivocal in demonstrating that short stature in school children, a product largely resulting from growth retardation in early childhood combined with environmental factors related to poverty, is an indicator of risk of poor school performance. Consistency, in findings from numerous studies suggests that growth retardation and present poor nutritional status of schoolchildren can be indicators of school participation. Poor nutritional status and hunger are confounded by poverty which is in itself detrimental to learning. Hunger interferes with a child's concentration and classroom participation.

Parasitic infections are causes of significant levels of morbidity among school-age populations. The chronicity of parasitic worm infections, for example, and the insidious nature of their health and developmental effects, especially during the school period when children are undergoing rapid physical, mental and intellectual development, has led to gross under-estimations of their importance in both health and education. Intestinal parasites contribute to the causation of protein-energy malnutrition and iron-deficiency anaemia conditions which are known to have adverse effects on learning. School-age children are not only most commonly infected with parasitic worm infections, but also most severely afflicted. **Malaria**, another parasitic disease of high prevalence in sub-Saharan Africa, is reported to be a frequent cause of absenteeism in endemic areas.

Infectious diseases also affect schooling. **Acute respiratory infections** (ARI) during the pre-school years contribute to growth failure and are associated with non- or late enrolment in school and during the first few years of school. **Diarrhoeal diseases** during the preschool years are also a major cause of growth failure which is associated with poor cognitive function and non- or late enrolment in school. Both respiratory and diarrhoeal diseases among school-age children may be an important cause of absenteeism.

Available research data on three of the most prevalent micro-nutrient deficiencies --- **iodine, iron, and Vitamin A** --- show effects on learning and childrens' academic performance. Iodine deficiency (resulting from an inadequate daily intake of iodine) affects about a billion people in the world. Severe iodine deficiency can result in cretinism accompanied by severe mental retardation and often deaf-mutism which prevents children from participating in formal schooling. Mild iodine deficiency, which is far more prevalent, can have functional effects on children ranging from sensory impairments to motor and cognitive deficits. [Deficits in hearing are well recognized as impediments to a child's academic achievement.] Experimental studies on iron deficiency anaemia and school performance have consistently reported poor performance (in a wide range of achievement tests) among iron-deficient anaemic children. Differences have been found among normal and anaemic children on attention and concentration measures. There is now scientific consensus that iron supplementation to school-age children with iron deficiency anaemia results in improvements in classroom learning and school achievement tests. With regard to Vitamin A Deficiency, deficiencies of this vitamin can impair the visual system resulting in "night blindness" and if severe, in blindness. Vitamin A deficiency also diminishes the body's capabilities to cope with infection and may retard growth and lowers productivity.

There are other common health problems which may affect school attendance and classroom behaviour. Skin and eye infections such as scabies, ringworm and conjunctivitis are easily transmitted in crowded classrooms and can result in days absent from school. Visual and physical disabilities will handicap children in and out of the class. Pregnancy and sexually-transmitted diseases among older primary school girls, of course, contribute to higher dropout rates among girls than boys, thus also limiting educational opportunities for girls.

5. Democratization of Schooling in Kenya and other Sub-Saharan African Countries

After the review of scientific studies on the relationship between nutrition, health and educational outcomes, **Professor John Nkinyangi,** described the efforts made by Kenya and other African countries towards democratizing schooling as well as some of the contemporary challenges impeding this process.[10] One of the most dramatic achievements of modern times, he reported, is the fast speed with which Western-style educational development has taken root in the countries of sub-Saharan Africa since independence in the early 1960s. This achievement, coming after barely thirty years of self-rule, is truly remarkable when contrasted with the underdeveloped state of African education after many years of colonization. He cited recent data from the World Bank to substantiate this point.[11]

Professor Nkinyangi highlighted that among the African countries, Kenya is one of those countries that have managed to extend access to primary education to significant numbers of their school-age children and also to significant numbers in the relevant cohorts at secondary and tertiary levels. At the time of independence, Kenya inherited a highly elitist educational system with a pronounced racial bias. Attrition was high among African children. During the colonial period, only between a third and a half of the eligible children attended primary school. However, only less than five percent of those reached the end of primary school. Of that number, only about 1% went on to secondary school. Close to the dawn of independence in 1960, only 47% of

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[10]"Democratization of Schooling and the Incidence of Dropouts", by J. A. Nkinyangi paper for the National Planning Workshop, October 1990.

[11]See, World Bank, *Education in Sub-Saharan Africa: Policies for Adjustment, Revitalization, and Expansion*, Washington, D.C., World Bank, 1988.

African children were going into primary school; twenty years later, in 1980, nearly all children of school-going age were in primary school.

The rapid growth in educational enrolments at all levels in Kenya and other sub-Saharan countries after independence is indicative of the African Governments' commitment to an equitable education for all. For the majority of governments, policy in this regard is based on the premise that education is a fundamental human right as well as being basic to economic growth and the development of a just post-independent African society. African peoples, in supporting and pressing their governments for educational expansion, also see it as the key to jobs in the modern sector of the economy and therefore to upward mobility and a better standard of living.[12]

African Governments' commitment to educational development is further indicated by the relatively large public allocations that go to the sector, especially up to the early 1980s. In fact, in many countries, education has for a long time been the largest recipient of government allocations, receiving close to or slightly above 40% of government recurrent expenditures in some countries (such as Kenya), compared to 6% for sub-Saharan African countries in general, and 3.5% for middle-income countries. Moreover, as is the case of Kenya, government allocations tend to be overshadowed by significant contributions by individuals and communities, especially in the financing of primary and secondary education. If these contributions are quantified, the African countries' total allocations to the education sector are considerable.

Along with attempting to democratize access to schooling, African Governments have attached great importance to education as a vehicle for the promotion of economic development and social transformation through the inculcation of the relevant attitudes and competencies among the people. Education is seen as having a key role to play on a number of fronts - in the production of skilled labour and the achievement of basic literacy and numeracy, and in the training of youth cadres in the fostering of positive attitudes towards the community, the State, the traditional culture and the national identity. Among the approaches that have been adopted to meet these objectives are the localization of the curriculum, and in some countries, the efforts to inculcate practical skills into the curriculum through, for example, the linking of education with production. Efforts have also been made to change the curriculum, entailing, in particular, the development of more appropriate

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[12]Cf., for example in Zimbabwe. See B. J. Dorsey, "Educational Development and Reform in Zimbabwe," *Comparative Education Review*, 33, 1, February 1989, pp. 40-56.

textbooks and other materials. Key to this have been efforts in some countries (e.g., Kenya and Zimbabwe) to introduce new and relevant content, including social studies, population and family life education, and environmental science. An integrated approach has also been adopted (e.g., involving history, geography, health education, nutrition, environmental protection, etc.). Despite these efforts, however, in many countries, progress in producing new and more appropriate educational materials is seriously hampered by shortages of experienced staff and inadequate financing.

While sub-Saharan African countries have made phenomenal strides in democratizing their educational systems and in making schooling more relevant to their societal needs, there is clearly no room for complacency. The massive expansion has been accompanied by many objective problems which Professor Nkinyangi outlined as follows:

(a) There is increasing unemployment and lack of opportunities for further education for an increasing number of pupils and students. A few years after independence, employment opportunities for primary school leavers had diminished. A short time later, secondary school leavers followed suit. University graduates now take a number of years (sometimes 2-3 years) before landing a job.

(b) Routinely, African educational systems are now blamed for offering children education that does not sufficiently prepare them for future employment or to cope with the challenges of the life after school.

(c) Accordingly, increasing unemployment has heightened individual and societal clamour about the relevance of schooling, especially in the lower grades, and these developments may be partly responsible for the stagnation and even decline in enrolments which is now observable in some countries. The stagnation and decline may be due either to children not getting access to schooling (hence, declining equity in education) or increased dropout.

(d) The World Bank estimated in 1980 that about a half of all primary-school entrants in developing countries drop out by the fourth grade "without having received any lasting benefit from

education".[13] In addition, the Bank document said about 15% to 20% of school places are occupied by repeaters. Given the deterioration in social and economic conditions in many developing countries especially in Africa during much of the 1980s, it can be expected that dropout and repeater rates are much higher now than they were during the earlier period. There is tentative evidence to prove this. The high rate of dropouts is a serious hindrance to efforts to eradicate illiteracy among the adult population.

(e) Another recent study by the World Bank on improving quality in primary education presented to the **World Conference on Education for All** in Jomtien, Thailand, argues that the goal of primary education in developing countries ought to be the production of graduates that have learned the skills prescribed in the curriculum. Hence, the report argues, the most relevant measure of educational effectiveness is not the number of enrolled pupils, which is what is often used in evaluating educational progress in developing countries, but rather, the number of completers that have achieved a required level of learning.[14]

Professor Nkinyangi argued that unemployment and other social problems have been exacerbated by Africa's social and economic crises, which have increasingly worsened since the 1970s, and particularly since the beginning of the 1980s. As is now well known, conditions in Africa have progressively deteriorated since the early 1970s as a result of a number of internal and external shocks - worsening terms of trade with the Western industrialized countries; increases in the price of oil; recurrent droughts; rising debt burdens; decline in official development assistance. The culmination of all these problems has been increasing levels of poverty among the majority of the population.

Professor Nkinyangi used some recent research data to show that poverty, as measured by low income, has increased significantly especially in the rural areas, even allowing for often substantial differences in cost of living between town and countryside. He argued that although the poor conditions in urban areas are often more dramatized, the problems of malnutrition, lack of

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[13]World Bank, *Education Sector Policy Paper*, Washington, D.C., World Bank, 1980, p. 9. See also World Bank, *Education Sector Working Paper*, Washington, D.C., World Bank, 1974, p. 5.

[14]M. E. Lockheed and A. Verspoor, *Improving Primary Education in Developing Countries: A Review of Policy Options* [Draft October 4, 1989], Washington, D.C., 1989, p. 205.

education, low life expectancy, and sub-standard housing, are, as a rule, more severe in the rural areas.

Worsening economic conditions have particularly hit the educational sector. In terms of budgetary allocations, this has meant not only low but declining per pupil expenditures as a result of enrolments which have continued to grow in absolute terms in the face of unabated population growth.[15] The budgetary crunch has meant that facilities like classrooms, equipment and teaching materials are simply not available for the ever expanding number of students. In addition, teacher training has lagged behind, and the qualification and the experience of the teaching force have declined. Moreover, the devaluation in the status and prestige of the teaching profession has contributed to a serious erosion in teacher morale. Consequently, a major gap has developed in the organization, planning, evaluation, and supervision needed to meet the challenge of educational expansion.[16]

The severe structural adjustment packages that have been recommended by the International Monetary Fund and the World Bank to address sub-Saharan African countries' problems have meant the introduction of specific policy reforms: cost-sharing schemes in the provision of social services; cutting back on subsidies, including students' and teachers' allowances; reducing unit costs of education through such measures as limiting grade repetition; and more generally, increasing prices for consumer goods and privatizing public sector activities.[17] Such measures seem to have played a special role in exacerbating student and other social unrest, as a number of recurrent examples in the popular Press tend to suggest. Not surprisingly, from even a cursory examination of these news reports, it would appear that the countries

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[15]Cf. World Bank, 1988, pp. 34, 138-143.

[16]More immediate confirmatory evidence of this decline is to be found in the plethora of now commonplace student complaints at all levels of the education system. The situation in higher education is deplorable; for while resources have been dwindling, African governments have been under severe pressure to extend admission to African universities. Funding for university activities in general and for research in particular has been seriously reduced. Foreign exchange has been difficult or even impossible to obtain in adequate amounts for the purchase of goods that must be imported from abroad. Moreover, the price of many essential goods - books, journals, paper, petrol - has increased sharply. The "book famine", as it has come to be called, epitomizes the crisis being faced by most African universities. The prevailing situation has made some critics contend that the precipitous decline in quality makes complete mockery of university education.

[17]See World Bank, 1986 and 1989, op. cit.

experiencing the most student disturbances and other forms of social unrest are also some of the most indebted ones.[18]

According to even a cursory survey of reports in the African and international Press, the austerity measures with a bearing on educational provision seem to have a direct relationship to student protest in some countries. These measures are: cost-recovery programs through the institution of student loans and student charges for meals in university cafeterias (Kenya and Zambia); general cost-reduction plans intended to eliminate students' and teachers' allowances (Kenya, Sierra Leone, Ivory Coast, Senegal, and a number of other countries); educational reforms targeted at curtailing repetition at the university (Madagascar); and examination reforms (Mali).

The reason for addressing the problem of unrest in higher education is quite important, and is intrinsically related to extending access to basic education as well. When resources are already skewed in favour of higher education, pressure by university students seriously circumscribes the room for manoeuvre by Ministries of Education in terms of reallocation of resources in favour of, say, basic education (i.e., primary education and adult literacy).

Professor Nkinyangi argued that the social and economic difficulties he had outlined must be closely related to a very serious problem now affecting African education -- the emerging stagnation and decline in primary school enrolments in a large number of countries in the face of growing populations. He pointed out how the socio-economic location of children have been seen to be closely related to the process of poor school performance and eventual premature withdrawal from school.[19] Studies have also found that with regard to education, poor families usually have lower expectations for their children than do relatively wealthier families.

On the other hand, poverty may jeopardize food security among lower class families, leading to poor nutrition and health of their children. Linked to this is the poor family's greater vulnerability to endemic diseases and illnesses

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[18]Sub-Saharan Africa's major debtors (billions of U.S. dollars, as of 1988) are: Nigeria, 30.7; Ivory Coast, 14.1; Sudan, 11.9; Zaire, 8.5; Zambia, 6.5; Kenya, 5.9; Congo, 4.8; Tanzania, 4.7; Cameroon, 4.2; Senegal, 3.6; Madagascar, 3.6; Ghana, 3.1; Ethiopia, 3.0; and Zimbabwe, 2.7. Cf. World Bank, 1990, pp. 218-219.

[19]There are two such barriers which constitute what has been dubbed the "hidden injuries of class" - there are barriers external to the school and barriers within the school structure as well. The barriers external to the school may include such factors as family expectations for education of its children and limited incomes.

associated with difficult living conditions. In many African countries, school attendance has been seen to be greatly influenced by seasonal food shortages (what is euphemistically referred to as *temporary hunger*), as well as by endemic diseases and illnesses resulting from poor living conditions. It has also been noted that many children go to school in the morning without having had any breakfast. Teachers report that the attention span as well as the school performance of such children are greatly inhibited. However, as far as is known, no studies have tried to examine the relative weight of these factors in contributing to erratic school attendance, poor performance, and eventual premature school withdrawal.

Limited incomes among poorer families also restrict provision of such school levies as building funds, activity fees, school books and materials, and other inputs necessary to ensure good performance or continuation of their children in school. The impact of social differentiation on school participation has been noted in an increasing polarization in access and progression through school based largely on the socio-economic status of pupils. This has been seen in the socio-economic profile of dropouts, repeaters and successful pupils, and in the fact that middle and upper income level groups are practically over-represented in higher education. In some cases, other factors, such as gender, ethnic origin or certain cultural attributes (including religion), have been seen to play a role which is frequently combined with the effect of socio-economic status. These inequalities have been seen to be further aggravated by disparities in the quality of teachers, educational facilities, and other inputs among schools serving different geographical regions and different social classes.

Previous studies have also shown the regional auspices of a school - whether rural or urban, location, and level of regional development (as a result of natural endowments or historical human interventions, e.g., colonial development) - to be important in determining dropouts. However, in a number of African countries (e.g., Kenya and Tanzania), previous research has shown regional location and the urban-rural status of the place of residence to be secondary to family background, gender of the child, traditional social structure and the social differentiation among peasants and traders in the rural areas in explaining the incidence of dropouts.

Professor Nkinyangi referred to a number of studies which in particular provide valuable insights into what appears to be one of the most important factors governing school attendance, especially in the rural areas of African countries - the opportunity costs of pupils' time. These studies report a strong influence of seasonal demands on pupils' attendance. Farm and housework have

been seen to be responsible for a significant number of absences from school. Retardation in school work has been found to coincide with non-attendance and eventually to lead to dropouts. Distance from school has also been found to be an important determining variable, and to a lesser extent, the salary, educational level, and experience of the teacher.[20]

6. Macro Economic Factors and the Provision of Basic Services

The background paper prepared by **Mr. G. K. Ikiara, Department of Economics, University of Nairobi,** discussed how the macroeconomic context conditions efforts to provide for the provision of basic services like education, health, food and nutrition and water.[21] The growth of the public sector has been crucial in the provision of basic services such as education, health, transport and communication, and extension services. However, the expansion of the public sector since the mid-1970s has led to chronic budgetary deficits. Growth of government expenditure, often in excess of its revenues, has been further aggravated by the fact that the country's taxable capacity has not been able to keep pace with government expenditure requirements. This has led to an increase in the governments' reliance on domestic and external borrowing, and persistent borrowing from Commercial Banks has tended to deprive the private sector of essential credit facilities.

Since the early 1970s the country's total foreign debt has risen rapidly and the debt service charges (as proportion of the country's exports of goods and services) has almost tripled between 1971 and 1989. The import liberalization policy pursued by the government upon recommendation and support of the International Monetary Fund and the World Bank as part of the wider structural adjustment programme has tended to worsen the country's balance of trade deficits. Imports have risen faster than the volume of exports, putting heavy pressure on the country's balance of payments over the past two decades.

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[20] 4 A number of UNESCO documents which have provided an overview of some of the older literature conclude that non-school variables, particularly the opportunity cost of pupils' time, the lack or unavailability of schools, are more important determinants of dropouts than are such school quality variables as teacher quality and class size. Nonetheless, such school quality variables as teacher education and experience do appear to make a difference in some countries. See, for example, UNESCO, *Bulletin of the International Bureau of Education*, 173, Paris, UNESCO, 1969; M.A. Brimer and L. Pauli, *Wastage in Education: A World Problem*, Paris, UNESCO, 1971; *A Statistical Study of Wastage at School*, Paris, UNESCO, 1972; and *Further Studies on the Evaluation of the Internal Efficiency of Educational Systems: A Symposium*, Paris, UNESCO, 1972.

[21] "The Contemporary Macro-Economic Environment and the Provision of Basic Needs in Kenya", by G.K. Ikiara for the National Planning Workshop, October 1990.

Kenya's rapid urbanization (the level of urbanization is nearly 20% of the total population) has been increasing economic pressures on the government. Provision of employment, education, health, food and other social services to this urbanized population will continue to pose a major challenge to the economy throughout the present decade. Furthermore, increasing pressure on land has tended to lead to subdivision of land, sometimes to a level insufficient for agricultural production; this has raised the level of landlessness and rural poverty and increased rural-urban migration.

The country's productive capacity (for gross domestic product needs) cannot meet present demands imposed by the high population growth rates. The rapid population growth rate has not met with concurrent increases in the land area under irrigation and, as a result, food shortages have become a major problem. The slow growth and stagnation of available domestic resources has exacerbated the unemployment situation and related problems of poverty and inequality in the distribution of income.[22]

Mr. Ikiara argued that the implicit conditionalities and implementation of the structural adjustment programme has had some negative impact on the government's provision of essential social services. Since independence, the government had expanded social services by providing some of them freely or through heavy subsidies; for example in 1967 health services in government hospitals and dispensaries were introduced; in 1974 largely free primary education was introduced and university education was provided free until 1975; various agricultural and veterinary services were provided free or heavily subsidized. A main requirement of the structural adjustment programme has been to reduce government expenditure which has been difficult to accomplish without worsening the condition and *quality of life* of the poor.[23] In response to demands for structural adjustment, the government introduced *cost-sharing*

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[22] From available data on levels of poverty in rural and urban areas, poverty appears to be a major problem during the last two decades with a large proportion of the population living below the poverty line. ILO and World Bank household income distribution estimates show that the problem of inequality is extremely serious: for 31 countries for which data was available for the 1970s and 1980s, Kenya had the second lowest share (after Côte d'Ivoire) of the poorest 20% of the population, that is 2.6% of the national income. At the same time, the country had the 4th highest proportion (after Côte d'Ivoire, Zambia and Mauritius) of national income controlled by the richest 20% of the population.

[23] Arguments are advanced against the requirement of the structural adjustment programme to curtail government expenditure and it is often argued that some of the main beneficiaries of the social services provided by the government are the poor, unemployed/underemployed and landless who usually have no means of acquiring such services through the market mechanism. Another argument is that at this early stage in development the government has the responsibility of laying a social and economic infrastructure which in the long run would facilitate the efficient operation of open market forces.

in December 1989 (in this way beneficiaries of government social services would be required to pay in part for such service costs).[24]

7. Challenges for Educational Planning

N. B. Ndungu, Deputy Secretary, Ministry of Education, provided further insights on the provision of primary education in Kenya.[25] Highlighting demographic pressures, Mr. Ndungu, indicated that rapid population growth in the country is in part due to the provisions by the Government for better health services, enhanced food production and better nutrition, the expanded educational system, and the experience of peace and stability since independence. The increased population is however, placing increasing strain on Government expenditures, social services, food availability, land, housing and employment.

Discussing the tremendous growth in primary education since independence, two particular events resulted in major increases in pupil enrolment: (a) the abolition of tuition fees in 1974; and, (b) the introduction of the National School Milk Programme in 1979. The expansion in enrolment has coincided with a commensurate increase in the number of teachers and the proportion of trained teachers to untrained teachers.

Confirming earlier remarks by Professor Nkinyangi, Mr. Ndungu drew attention to the poor retention rate of pupils from one grade to the next. He said that the high wastage in primary education caused by a large number of drop-outs as well as repeaters needs further study to determine the magnitude and reasons for dropouts and repeaters in the primary cycle. [The national dropout rate is 35%. In the ASAL districts the rate is 55%. The Government's target by the year 2000 is to reduce the national dropout rate to 15%.] In the ASAL areas, access to and progression through primary education remains below national averages. Despite Government initiatives to extend educational services in these hardship areas, including provision of boarding schools for children of nomadic pastoralists, school feeding programmes, deployment of teachers (in some districts, e.g., Isiolo, Baringo, and West Pokot, there still remain high numbers of untrained teachers), there is still a high incidence of irregular

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[24] Although this move to *cost sharing* was inevitable, the effect on the poor who may not be able to pay the required share (for example, in education and health, *cost sharing* makes it extremely difficult for the poor to uplift their standard of living).

[25] "Challenges for Educational Planning", by J. B. Ndungu, for the National Planning Workshop, October 1990.

attendance. Reasons may include inability of parents to pay for school uniforms and books and to contribute to school running costs; children of nomadic families may leave school to follow parents; initiation ceremonies may result in missing school; children may be needed to work.

In addressing the educational wastage problem, Mr. Ndungu argued that it will be necessary to reassess educational costs and identify realistic measures for cost-sharing that parents and communities can actually afford. Other actions may include modifying the school calendar to accommodate to seasonal needs of parents for child agricultural labour, offering both day and evening classroom instruction, mobile schools to follow nomadic populations, provision of food at school (some schools have been able to organize meals for pupils on their own at very low cost, and such initiatives should be explored), delivery of health services to school children. "It is only in the education sector that in any one day of school there is a crowd of 5.4 million children assembled for a common purpose of instruction, under the control of teachers. Such an opportunity should be utilized by other sectors and Agencies that look after the welfare of children".

8. Extending Health to All

The health sector and the kinds of activities it carries out relevant to the welfare of children was the subject of five presentations from Ministry of Health officials. First, **Dr. Mwanzia, Ministry of Health,** discussed the national *primary health care programme*, its goals and objectives and focus which gives particular attention to reaching disadvantaged populations and in this regard primary health care is to be accessible and affordable to individuals, families and communities and should rely on community participation. Decentralization of health care and active community involvement are central to the primary health care approach. For example, the Essential Drug Programme is decentralized to district-level and similar efforts are being made to decentralize control programmes of endemic diseases. Another important feature is intersectoral cooperation and partnerships at all levels. Community involvement is considered an essential component in the country's health development and self-reliance. Although school health programmes (primarily health education) are considered part of the primary health care approach, such programmes to date lack appropriate coordination and adequate manpower.

Despite the expansion of primary health care in the country, the health sector faces problems resulting from: (a) the increasing pressure on public

sector financial resources needed for expanding health facilities and services and for responding to increasing demands arising from the high population growth; (b) an inequitable spatial distribution of health services in the country due to low community participation in some areas, and a difficult physical environment especially in the ASAL districts; and, (c) the shortage of manpower and management expertise required for the effective running of health services.

In discussing nutrition and health services targeted at school-age children, Dr. Mwanzia, focused on possible interventions and the cost implications for such interventions.[26] It was suggested that school-based interventions (e.g., improvement of the physical facilities of the school, provision of water and latrines, school health services, school meals, health/nutrition education, etc.) should be conceived within the spirit of the country's primary health care concept. Particular attention was given to school feeding activities and factors contributing to the success of such interventions (e.g., parents' participation in planning and implementation, general community involvement with, as for example, construction of kitchens and food stores). It was cautioned that prolonged use of donated foods for school feeding may create dependency. Rather, these programmes should be based on local foods and resources (with contributions in the form of food, money and labour derived from the community itself). Furthermore, school feeding activities can integrate with other health/nutrition efforts if they rely on a strong community-support network.

9. Nutrition in Health for All

Promotion of nutrition as an important component of the country's primary health care strategy was the theme of the presentation made by **Ms. Joyce B. K. Meme, Acting Chief Nutritionist, Ministry of Health.**[27] Throughout her discussion, Ms. Meme stressed the complexity of issues surrounding the malnutrition problem in poor communities and the critical importance of intersectoral cooperation. Over the last two decades, the Kenya Government has increased food production and achieved credible growth in

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[26]This presentation was based on the paper "Viability of Nutrition and Health Services Specifically Targeted at School-Age Children Including Issues of Cost, Coverage, Possible Partnerships Between Government, Communities and NGO's and/or Interfacing with Existing Services" prepared by **Dr. A. O. Oyoo** for the National Planning Workshop, October, 1990.

[27]"Nutrition and Health Problems in School Children," by Joyce B. K. Meme, paper prepared for the National Planning Workshop, October, 1990.

agricultural production. This growth in the agriculture sector, however, has not kept pace with the rapidly growing population and, as a result, there has been little marked improvements in per capita food intake. The expansion of agricultural production which has also resulted in widespread soil erosion and food insecurity in disadvantaged areas of the country (e.g., ASAL districts) undermines the development of human resources.

Ms. Meme underscored the remarkable reduction in infant mortality in the country over the last decades and acknowledged that much of the phenomenal success achieved by the health sector in reducing infant mortality can, in part, be attributed to the expansion of primary health care and more specifically to such interventions as immunization, oral rehydration therapy and the promotion of health knowledge and information about breastfeeding, growth monitoring and family planning.

These successes, however, are no reason for complacency; many of the health technologies and interventions which have resulted in the reduction in infant mortality have had much less impact on the incidence of morbidity among school-age children, on nutritional status or on general development. Although there is a significant gap in available information on the health status of school-age populations, existing data from research studies show that prevalent nutrition and health conditions such as malnutrition, parasitic infections and infectious diseases may generate very high levels of ill-health and morbidity in school-age communities.

Ms. Meme argued that school health programmes should address prevalent health and nutrition problems among school-age children, find ways of delivering primary health care to these children and assure that the school environment is "health promoting", e.g., all aspects of the school should foster the health and well-being of children, such as the school location, buildings, lighting and ventilation, furniture, water and sanitation, safety of school grounds and play areas. Health promoting initiatives that schools could undertake may include provision of water tanks, nurseries and planting fruit trees, construction of latrines, school snacks, etc. The school curriculum should include health and nutrition education and teachers should receive sufficient training in these areas to effectively impart knowledge for health promotion. School-based health promotion should be extended into the community.

10. Micro-Nutrient Disorders

Mr. T. N. Omondi, Ministry of Health, discussed a priority health problem in Kenya --- iodine deficiency disorders (IDD) --- prevalent in the country and particularly common among school-age children.[28] Past studies conducted in Kenya have shown that IDD is severe throughout much of the western portions of the country, generally decreasing in severity eastward across the country. It was found that 69% of the districts in Kenya are endemic and approximately 13 million persons live in endemic areas. The Ministry of Health presently considers IDD among the priority areas to ensure child survival and normal development. In 1986, it formed a Coordinating Committee on IDD and in 1987 renamed the committee the National Council for the Control of Iodine Deficiency Disorders in Kenya (NCCIDD).

A National Survey of the Severity and Extent of Iodine Deficiency will be launched in 1990 and done on a randomly selected sample of primary school pupils in selected schools in each district. To assess severity and extent of IDD in primary schools, goitre prevalence and urinary iodine levels will be determined (schoolchildren are considered as the best parameter for determining status). Sampling of salt in homes surrounding the primary school sample will provide information on the degree to which salt is currently iodated. The salt samples taken from the homes will provide information on the place and frequency of purchase of salt, its location and duration of storage in the home, its mode of consumption. Further information will be collected on the consumption of goitrogenic foods. Schoolchildren will be examined for goitre, their heights and weights taken and urine samples collected. It may be possible to coordinate data collection of this survey with the health and nutrition *baseline assessments* to be carried out as part of the project on "child health, nutrition and educational participation" (see later section of this report on *baseline assessments*).

11. The National School Milk Programme and School Feeding

Experiences gained from the Kenya School Feeding Programmes, were reviewed in detail by **Mr. Richard Towett, The Deputy Director of Education in Charge of School Milk and School Feeding Programme**

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[28] Iodine deficiency disorders (IDD) refer to the full range of disorders caused by iodine deficiency. These disorders include not only clinical goitre but also a wide range of effects from fetal to neonatal death, endemic cretinism, milder mental and physical impairment and mental lassitude and physical lethargy. In some areas of Kenya, iodine is deficient in the soil and, therefore, food and water.

Division in the Ministry of Education. He reported that the Kenya Government has, in addition to the National School Milk Programme, a number of other school feeding programmes which are sponsored by various local and international organizations and agencies. He explained that the main objective of all these feeding activities is to provide food supplements to pre-primary and primary school children in order to help improve their health and nutritional status and provide them the energy to participate in school particularly in food deficit arid and semi-arid areas of the country.

As mentioned earlier, the school milk scheme is designed to cover the entire country and reach each school child (with 0.2 decilitres of milk) twice a week throughout the school year. An evaluation and appraisal of this national programme is planned by the Ministry of Education and should facilitate improvements in design and delivery of the programme.

The Government of Kenya/World Food Programme (GOK/WFP) School Feeding Programme was introduced in 1981 and presently covers 19 districts in arid and semi-arid areas of the country. These include in the Rift Valley Province: *Narok, Kajiado, Baringo, Keiyo Marakwet, West Pokot, Turkana, Samburu, Laikipia*; in Eastern province: *Embu, Meru, Isiolo, Kitui, Machakos, Marsabit*; in North Eastern Province: *Garissa, Wajir, Mandera*; and in Coast Province: *Lamu and Tana River*. WFP donates wheat, vegetables and oil which is then exchanged by the Government for maize and beans and transported to recipient schools; these staples are used for preparing mid-day meals in pre-primary and primary schools.[29] As this programme relies on the transport of food to schools in disadvantaged areas of the country, transport problems due to the extremely rough terrains, difficult roads and long delays in vehicle repairs continue to bottleneck the smooth operation.[30]

The GOK/WFP School Feeding Programme is designed to increase school enrolment in the ASAL areas served through the provision of school meals. The relative contribution of school meals to better attendance and reduce dropout rates remains to be assessed in light of other prevalent factors conditioning childrens' participation in school (e.g., poor accessibility to schools, limited boarding school capacity, inadequate number of school and

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[29]The GOK/WFP School Feeding Programme is occasionally supported by other donors e.g., UNICEF has contributed trucks and kitchenware, Australia has provided cash for improving storage and transport, the Norwegian Save the Children Fund has assisted in the construction of 45 kitchen and stores; the Japanese NGO, Tenrikyo, has donated lorries and assists in repairing them at low-cost.

[30]The Ministry of Education has incurred costs estimated at KES 11.9 million for repairs and replacement of vehicles.

classroom facilities, long distances separating homes from schools, physical condition of children, etc.).[31]

Another school feeding programme run by the National School Feeding Council of Kenya (NSFCK) has revised its policy in recent years rather than provide meals to schoolchildren in needy areas, it encourages school feeding activities in those areas in which parents can afford themselves to maintain them. This programme was established in 1967 originally initiated by OXFAM and later supported by CARE. Presently, it is under the direction of the National School Feeding Council with funding support from parents, donations from individuals and other organizations and annual grants from the Ministry of Education (between KES 600,000 to 1,000,000). The administration of the NSFCK relies on *School Committees* headed by school Headmasters and other members of the teaching staff and the food commodities used are bought on the local market.

The NSFCK Programme in 1986 reached 60,000 children in 15 districts (in Central Province: *Kiambu, Kirinyaga, Muranga, Nyeri*; in Eastern Province: *Embu, Kitui, Meru, Machakos*; in Rift Valley, *Nandi*; in Western Province: *Kakamega, Bungoma, Busia*; in Nyanza Province: *Kisumu*; in Coast Province: *Taita Taveta, Kilifi*). A few schools in needy areas of Nairobi Province are also serviced. The number of children being fed through the NSFCK programme has dropped by 20,000 and reasons for this reduction in beneficiaries is attributed to inflation and reduced purchasing power of parents, withdrawal of the NGO (CARE), and the reduction in the annual grant contribution from the Ministry of Education.

The **Representative of the WFP, Ms. Larson,** provided further information on her agency's future plans in the country. She said that next phase of the GOK/WFP School Feeding Programme (upon approval) is tentatively scheduled to commence in mid-1991 for a 3-4 year period.

"Can food aid really improve health and nutritional status?" was the question Ms. Larson posed to the group. She said that rather than health and nutrition improvement, it is more appropriate to consider food aid as a means to meet the short-term hunger gap. She underscored the need to go beyond enrolment data and look at actual attendance rates. The next phase of the GOK/WFP School Feeding Programme will feature a new element ---

[31] An evaluation is planned within five districts (Narok, Garissa, Isiolo, Lamu and Turkana) to assess whether there is any relationship between *poverty, malnutrition and school performance*.

monetization. Imported wheat will be sold on the local market and the revenue derived from these sales will be reverted to the project in the form of "available funds" to: (a) train personnel in the management of school feeding programmes; (b) purchase of books and instructional materials for project schools; (c) provide fuel-saving stoves to a number of schools; (d) purchase of agricultural tools to encourage school food production; and, (e) cover costs of monitoring and evaluation at schools.

12. Nutrition and Health: Cooperation in Research and Training

Professor Ruth K. Oniang'o, Department of Home Economics, Kenyatta University, provided further insights on the health and nutrition problems of school age children.[32] It is her belief that health and nutrition conditions of this age group have been barely addressed in Kenya. She reported that the first nationwide nutrition survey after independence identified children under-five as *"high risk"* of poor health and mortality. During the post-independence period, the Maternal Child Health clinics established were designed to deliver services primarily to pregnant and breastfeeding women, and young children under-five years of age. Later, nutrition surveys, however, elicited high levels of iodine deficiency disorders among school age children.

She highlighted the significance of earlier discussion on the importance of health and nutrition during the school-age period and said that for school-age children, the problems of inadequate food intake (children simply are not getting enough food to eat) can be transferred from the pre-school years to the school years hence exacerbating the problems of undernutrition and poor health. Interventions to address these problems should be conceived within short, medium and long-terms (e.g., short-term measures may include feeding children at school, improvement of school environment and sanitation facilities, provision of first aid at school, school kitchen gardens, nutrition and health education; medium-term measures may cover aspects of curriculum development including components of health and nutrition education that are relevant to the problems found in the district and province, training teachers in health and nutrition, provision of health services to schools; and long-term measures may include improving and expanding the primary health care system, food production and availability, water and environmental sanitation).

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[32] "Nutrition and Health Problems of School-Age Children", by R.K. Oniang'o for the National Planning Workshop, October 1990.

The training of educational personnel in nutrition education and research, was the focus of the presentation by **Dr. Asenath J. Sigot,** also from the **Department of Home Economics, Kenyatta University.**[33] After an informative review of tertiary-level training programmes in nutrition in Kenya, Dr. Sigot underscored the need for more and higher quality nutrition instruction at the university level.

Presently, there are 3 university departments in Kenya that have nutrition education and nutrition-related research programmes. The Department of Food Technology and Nutrition, University of Nairobi, has a post-graduate degree programme in human nutrition; the Department of Home Economics, Kenyatta University and Egerton University offer undergraduate courses in food and nutrition and carry out research activities in the area of nutrition education. In the area of research, she noted the predominant role played in the 1960s by foreign researchers and the reversal that took place during the last two decades during which time nationals began to carry out most research. Unfortunately, many Kenyan researchers have been influenced by external ideologies, directions and finances. Consequently, their research findings have not always been appropriately interpreted for those responsible for decision-making. Generally, nutrition education research has been fragmented and short-term in perspective. There exists the need for a "holistic" integrative approach to the understanding issues of hunger, food insecurity, malnutrition and poor health and applying this understanding to the design and development of appropriate nutrition education programmes at all levels and in this regard, priority research areas could include study of socio-economic factors which may have an impact on health and nutrition; undernutrition and reasons for inadequate food and/or improper eating behaviour.

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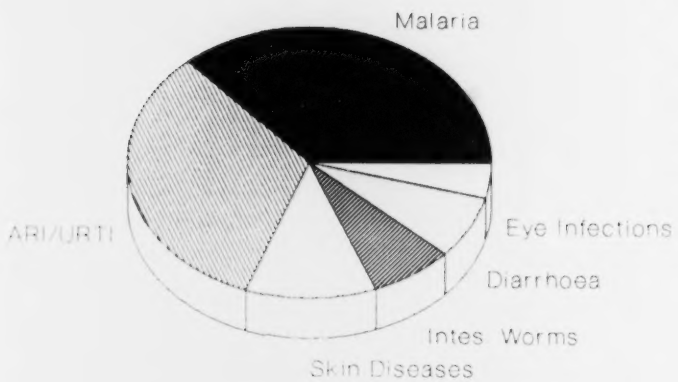
[33]"New Perspectives on Nutrition Education and Research: Recommendations for Action", by A. J. Sigot for the National Planning Workshop, October 1990.

Fig. 1. Leading Causes of Morbidity
KENYA



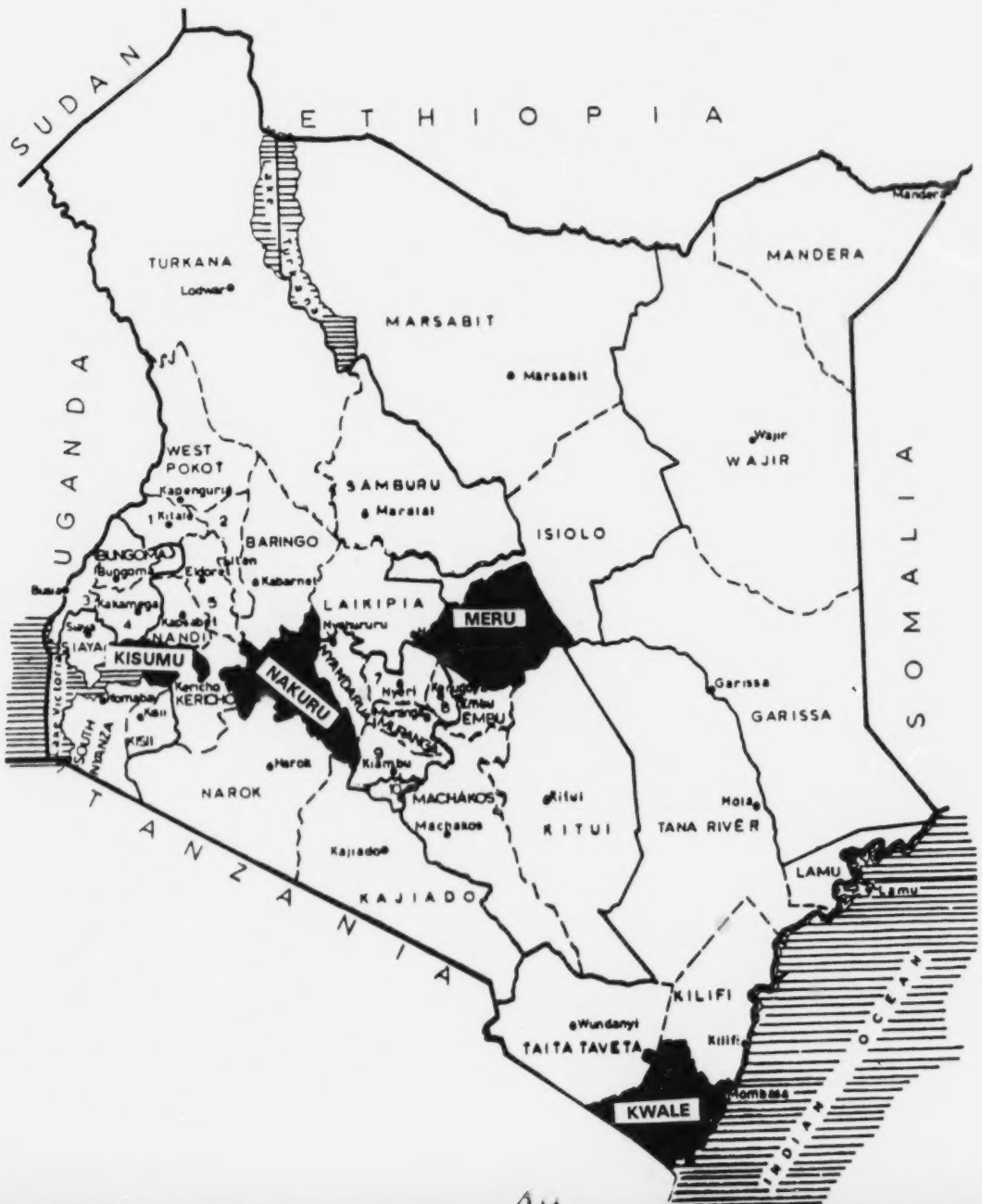
SOURCE: MOH; 1987 Outpatient Data

PART TWO

AFRICA

KENYA

Provinces and Districts



1. District Education and Health Reports

Education and Health representatives from each of the four project districts --- **Kisumu, Kwale, Meru and Nakuru** provided brief overviews of the situation in their area.

KISUMU DISTRICT

Kisumu District has a projected population of over 800,000 with an annual growth rate of 3.3% per annum; there are 137,704 children under 5 years.[34] The major sources of income in the district are agriculture (sugar cane, cotton, millet, sorghum), cattle, goat and sheep rearing, fishing, business and manufacturing. Rainfall throughout the district is unpredictable; in the Kano Plains, irregular torrential rains alternate with floods. The district is characterized by poor soils, lack of adequate food supplies, and general poverty.

Table 1. Kisumu District
Problems in Primary Education

- Absenteeism
- Under-enrolment
- Inadequate School Facilities
- Hunger
- Inaccessibility of Schools
- Poor Teacher Morale
- Health and Nutrition Problems

Source: DEO & MOH Workshop Reports

A little over half the population in the district has access to potable water and only 18% have proper waste disposal. Housing is poor in many communities. The infant mortality rate, 123 per 1000 head of population, is the fourth highest in the country (after South Nyanza, Kwale and Siaya District). Factors contributing to this elevated mortality rate are: malaria, upper respiratory tract infections, diarrhoeal diseases and malnutrition. The current district-wide immunization coverage is only 38%. The district is a net importer of food. The lack of regular and adequate food supplies contribute to the malnutrition problem among children and women in poor households.

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[34] Administratively the district is divided in 6 Divisions (Maseno, Muhoroni, Nyando, Lower Nyakach, Upper Nyakach, and Winam), 26 locations and 128 sub-locations.

The six leading diseases in the district as recorded from visits to health facilities are:[35]

	1988	1989	1990(Sept)
Malaria	**259,939**	**227,751**	**203,991**
Respiratory Infections	**96,794**	**109,453**	**105,557**
Skin Diseases	**44,526**	**38,905**	**37,051**
Eye Diseases	**20,349**	**19,787**	**14,055**
Diarrhoeal Diseases	**43,337**	**39,935**	**36,947**
Intestinal Worms	**30,167**	**29,110**	**27,853**

Some problems affecting primary school education reported include:

Absenteeism

During the sugar cane cutting season, pupils in Standard 6, 7 and 8 often take up jobs as sugarcane cutters. During the months of April, May and June, flooding in Nyando, Lower Nyakach, Muhoroni and lower parts of Winam Division impede access to school and even displace families. Malaria is an important cause of absenteeism from school. Parasitic infections (e.g., bilharzia, hookworm, ringworms, threadworm, roundworms and tapeworms) among school-age children result in morbidity and also contribute to absenteeism from school.

[35] There are 78 health facilities in the district (Government and private).

Under-enrolment

Especially prevalent in Nyando, Lower Nyakach and lower parts of Maseno Division. The reasons associated with these problems are that school-age children are used to scare birds from the rice fields, to help in cultivation and subsequent weeding for crops, and in the areas that border the Lake (Lower Nyakach, Nyando and the lower parts of Winam Divisions) to fish. In the north western part of Maseno Division (Kombewa Zone) children may become involved in gold mining (which can be an exhausting activity for children).

Inadequate physical facilities and poor conditions of schools

In parts of the district, there are not enough desks and benches, textbooks are scarce, there are insufficient supplies of water, and school latrines are inadequate.

Hunger

In certain areas, many pupils come to school hungry. Children may also go without food for the entire school day. [Distances between homes and schools may be far making it difficult for children to return home for lunch; workloads of parents especially mothers may be heavy offering little time to prepare or organize for meals for children in the morning or at mid-day; family incomes may be low and household food security inadequate].

Poor roads and communication

There are schools that are extremely difficult to access by road due to floods (e.g., in lower parts of Nyakach) and rugged terrains and, consequently, lack regular supervision and inspection.[36]

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[36]One primary school near Kisumu Town, for example, is only 5 km from the main road; however, since there is no track to the school the only way to reach it is to go around the mountain, transversing three provinces in the process. Milk deliveries to the school and supervision become difficult.

Low teacher morale and performance

The general decline in the salaries and purchasing power of teachers contributes to low morale as does the lack of suitable housing accommodations and the availability of teaching-learning materials.

KWALE DISTRICT

The population of Kwale is 420,000. The district has 244 primary schools with a total enrolment of 72,244 (43,414 boys and 32,030 girls). Major problems affecting primary education in the area were reported.

Table 2. KWALE DISTRICT
Problems in Primary Education

- Lack of Adequate School Facilities
- Low Ratio of Trained/Untrained Teachers
- Poor Roads and Communication
- School Dropout and Wastage
- Malnutrition
- Poverty

SOURCE: DEO & MOH Workshop Reports

Lack of adequate learning and physical facilities

Especially lacking are classrooms, desks and benches, instructional materials and books, workshops/home science facilities, tools and equipment.

Low ratio of trained to untrained teachers (2:3)

Most of the trained teachers are from outside the district and frequently ask for transfers back out.

Poor roads and communications

Especially in the hinterland --- e.g., in Kinango Division where public transportation is rare and unreliable. There is one Government vehicle for the district and, consequently, field officers are unable to inspect and supervise schools effectively.

High dropout rates

The dropout rate is especially high for girls. In Standard 1 there might be 30 girls in the class but by Standard 8 (the time of the KCPE) only 5 or 6. Girls are found to marry early (often to much older men); the tourist trade on the coast also entices pupils away from school into activities that earn "easy money".

Poverty and malnutrition

Poverty is prevalent in the dry hinterland and in the immediate coastal region. Food security is a serious problem among the poor families and parents find it difficult to meet school requirements (e.g. contribute to school building funds).

Although the infant mortality rate has declined over the last decade it remains significantly higher than the national average. Nutritional stunting is also higher than the national average and immunization coverage below the national average:

Kwale Health Indicators

1. **Infant Mortality**

Kwale	190/1000 (1979)
	159/1000 (1989)
Nationally	74/1000
Nyeri	42/1000

2. **Nutritional Stunting**

Kwale	38.5%
Nationally	24.0%

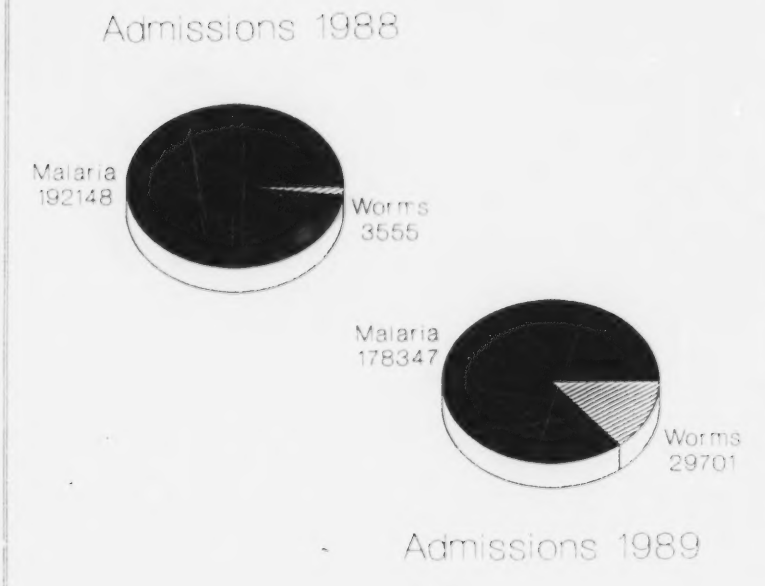
3. **Basic Immunization Coverage**

Kwale	61%
Nationally	77%

Latrine coverage in 1979 was only 35% and in 1989 55%. Availability of latrines in primary schools is generally poor (e.g., one toilet for teachers and one for pupils).

Health problems in the district based on admissions data from the Msambweni District Hospital appear in the figure below. Other diseases are anaemia associated with malnutrition, respiratory infections, diarrhoeal diseases, skin and eye infections.

Fig. 2. Msambweni Hospital
Top Two Conditions



SOURCE: MOH; Hospital + Outpatient Data

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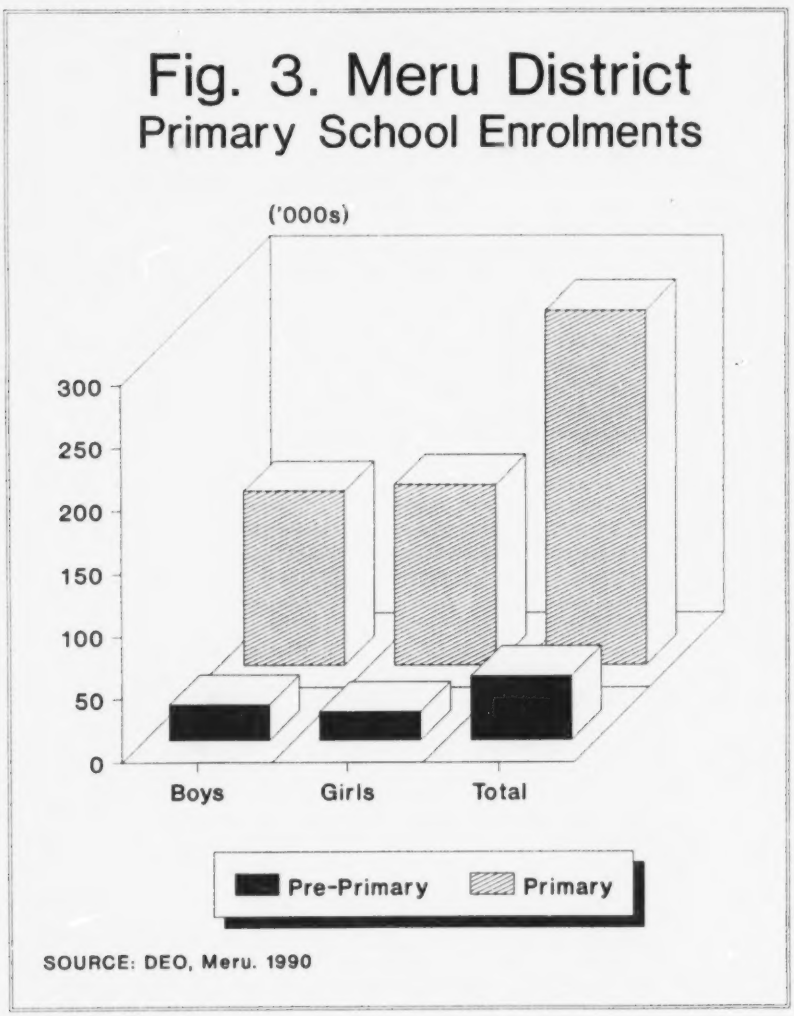
MERU DISTRICT

Meru District has a projected population of 1.2 to 1.5 million and covers an area of 10,000 square kilometres. There are 10 Divisions and 55 educational zones. The district is classified according to *high potential areas* --- Imenti (North, Central and South) and Timau; and *marginal areas* --- parts of Tigania Tharaka, Nithi, Ntonyiri and Igembe.



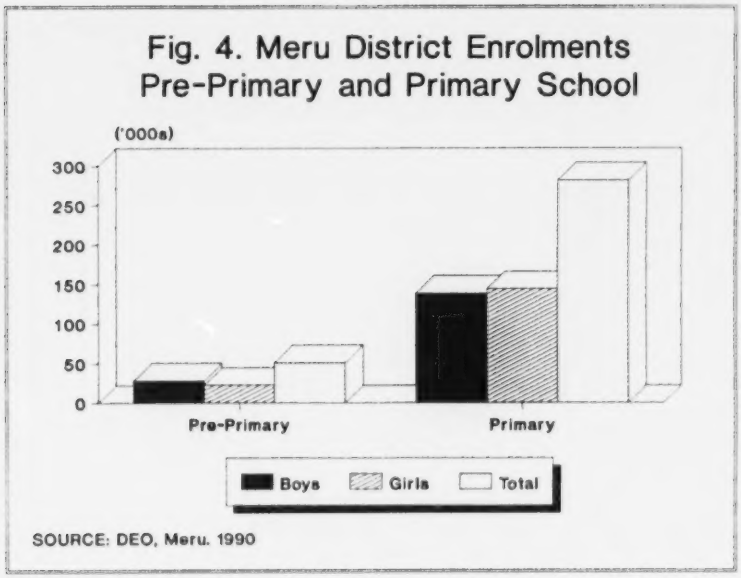


Fig. 4. Meru District Enrolments
Pre-Primary and Primary School
('000s)
300
250
200
150
100
50
0
Pre-Primary
Primary
Boys
Girls
Total
SOURCE: DEO, Meru. 1990

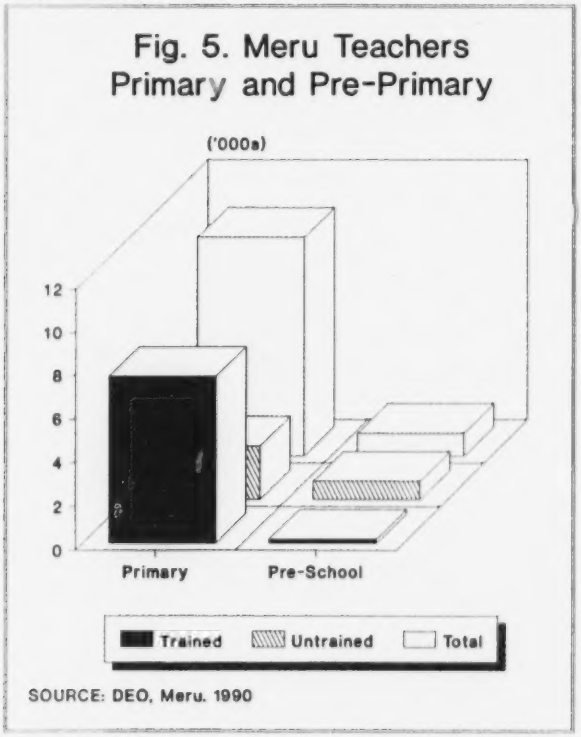


Fig. 5. Meru Teachers
Primary and Pre-Primary
('000s)
12
10
8
6
4
2
0
Primary
Pre-School
Trained
Untrained
Total
SOURCE: DEO, Meru. 1990

Among the major problems facing primary education in the district reported are:

Inadequate physical facilities

Most primary school classrooms (except for Standard 8 which has for the most part the best classrooms) are temporary or semi-permanent; teacher staffrooms, bookstores, workshops are lacking (980 are required and only 145 are available, and for home science 908 are required and only 52 are available). Playing fields (many are on steep slopes) are insufficient. Latrines in schools are inadequate for school populations and most schools lack water (especially in the ASAL areas of Ntonyiri, Igembe, Tharaka, Tigania, and North and Central Imenti).

Inadequate instructional materials

There are inadequate instructional materials, e.g., textbooks and instructional materials (teachers' guides, teaching aids, and stationery). Basic science equipment and tools for home science workshops are also lacking. Classroom furnishings (desks and benches) are deficient; there may be 10 or more children to a bench meant for 4.

Low teacher morale and poor motivation

Among the obvious manifestations of this waning commitment to the profession is teacher absenteeism and non-coverage of the required syllabus content, especially in Standards 4, 5 and 6. Teachers are also lukewarm to working in certain communities in which they are posted. There are religious biases that influence the allocation of teachers to certain schools.

Difficulties in staffing some schools

The issue of teacher posting has resulted in disparities in staffing in schools depending on their location (there is overstaffing in some areas and understaffing in others). There are also disparities in school locations (some are too close to each other and others too far apart).

Poor roads and communications

Road conditions to schools are poor in some areas (there is a lack of motorable tracks to some schools). During the rainy season and especially after heavy downpours roads/tracks become gorges.

Decreasing school land

Land for schools especially in the high potential areas is decreasing as result of population growth and the encroachment by the public sector and through subdivisions between primary and secondary schools.

High dropout rate

The high dropout rate can be attributed to a wide range of factors, such as repetition (especially in Standard 6); scarcity of schools in some areas, thus requiring pupils to enter school at a later age or to withdraw from school prematurely; child labour (e.g., *miraa*, coffee and tea harvesting, and employment as houseboys and maids). Hunger in marginal areas and migration during drought periods are other possible causes. Parents in these areas are also unable to meet *cost sharing* obligations for the provision of physical facilities and are unable to purchase school uniforms. In addition, certain traditional/cultural practices are associated with withdrawal from school (e.g., after circumcision, boys may object to receiving instruction from a female teacher or to being in the same class with uncircumcised boys). Early pregnancy and premature marriage inhibit the education of girls. Squatter eviction in the Government Forest area (Timau and Kibirichia) and instability among landless poor families in general are other factors explaining high dropout rates in parts of the district. Poor health and nutrition are also no doubt related to school wastage. There are lack of health education opportunities due to inadequate health education staff.

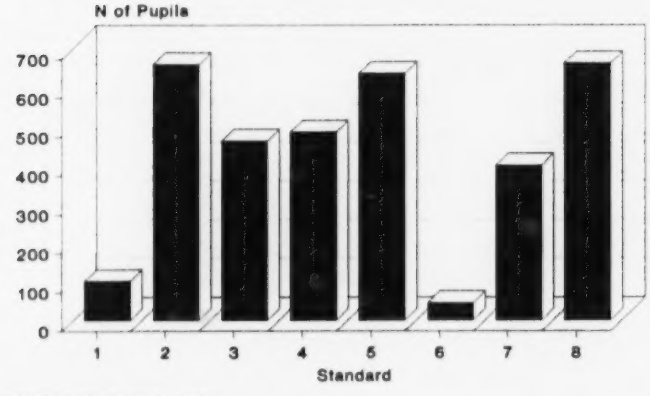
Table 3. MERU DISTRICT
Problems Affecting Primary Education

- Inadequate Physical Facilities
- Inadequate Teaching-Learning Materials
- Low Morale of Teachers
- School Staffing Difficulties
- Poor Roads and Communication
- Dropout and Wastage
- Malnutrition
- Poverty

SOURCE: DEO & MOH Workshop Reports

The following graphs illustrate similarities and differences in the relative numbers of children in different standards who have dropped out of the primary school system in various divisions of Meru District.

Fig. 6. School Dropouts Igembe Division, Meru



SOURCE: DEO, Meru. 1990.

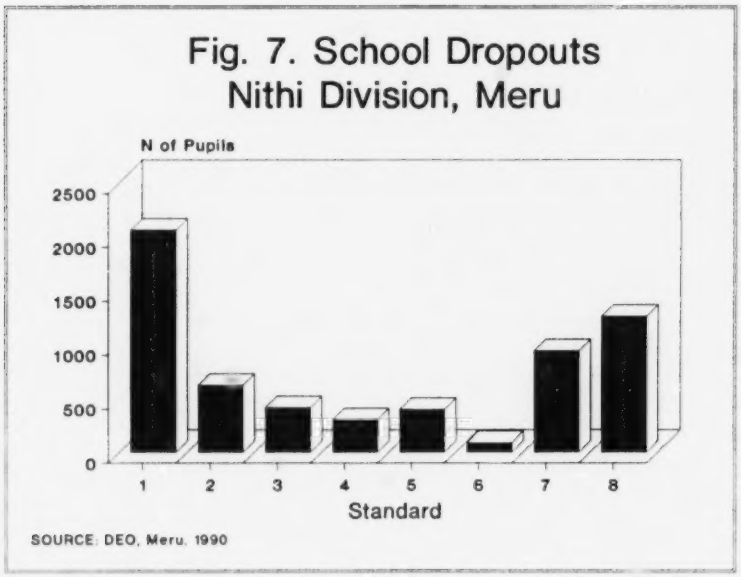


Fig. 7. School Dropouts
Nithi Division, Meru
N of Pupils
2500
2000
1500
1000
500
0
1
2
3
4
5
6
7
8
Standard
SOURCE: DEO, Meru. 1990

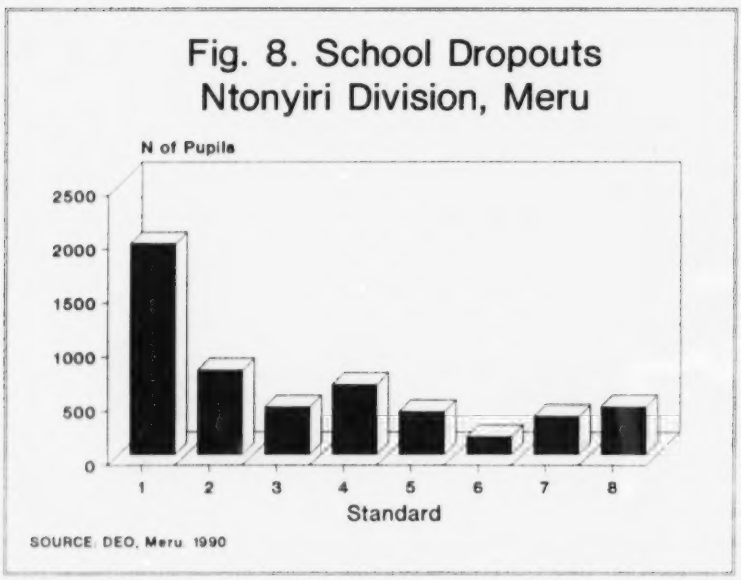


Fig. 8. School Dropouts
Ntonyiri Division, Meru
N of Pupils
2500
2000
1500
1000
500
0
1
2
3
4
5
6
7
8
Standard
SOURCE: DEO, Meru. 1990

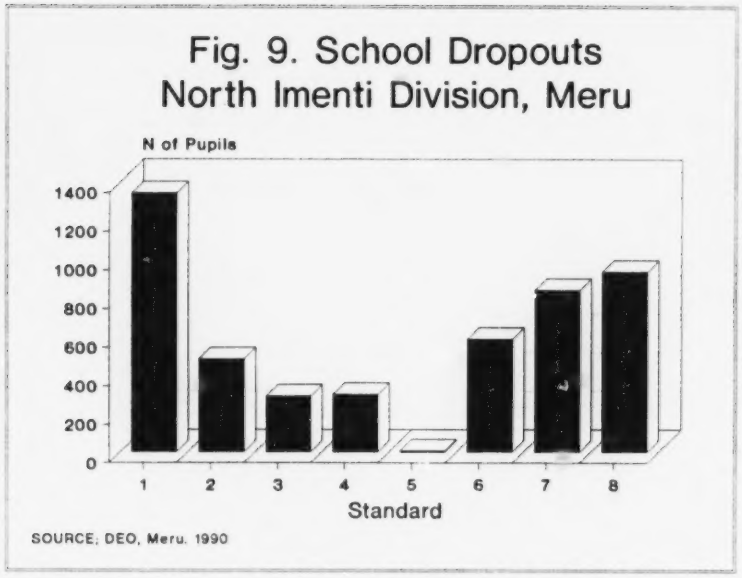


Fig. 9. School Dropouts
North Imenti Division, Meru
N of Pupils
1400
1200
1000
800
600
400
200
0
1
2
3
4
5
6
7
8
Standard
SOURCE: DEO, Meru. 1990

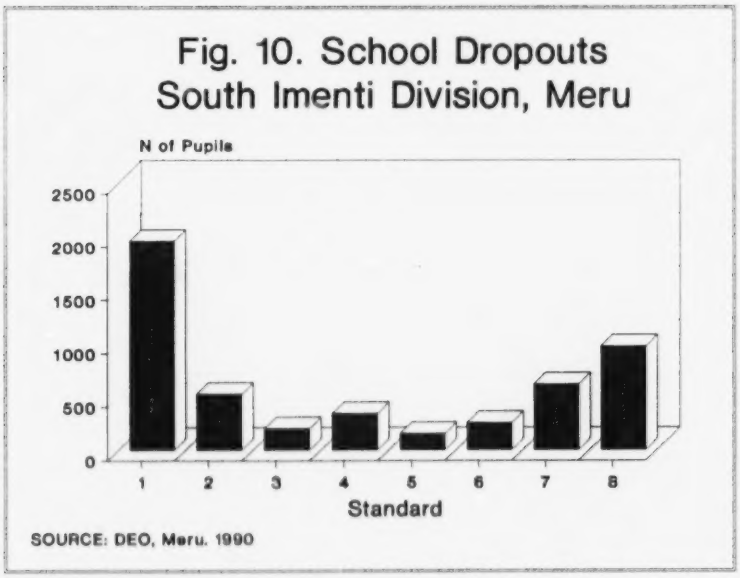


Fig. 10. School Dropouts
South Imenti Division, Meru
N of Pupils
2500
2000
1500
1000
500
0
1
2
3
4
5
6
7
8
Standard
SOURCE: DEO, Meru. 1990

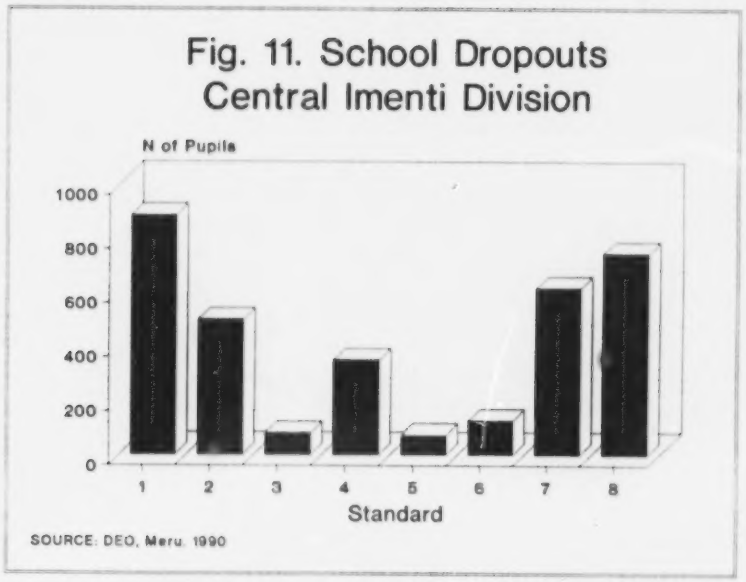


Fig. 11. School Dropouts
Central Imenti Division
N of Pupils
1000
800
600
400
200
0
1
2
3
4
5
6
7
8
Standard
SOURCE: DEO, Meru. 1990

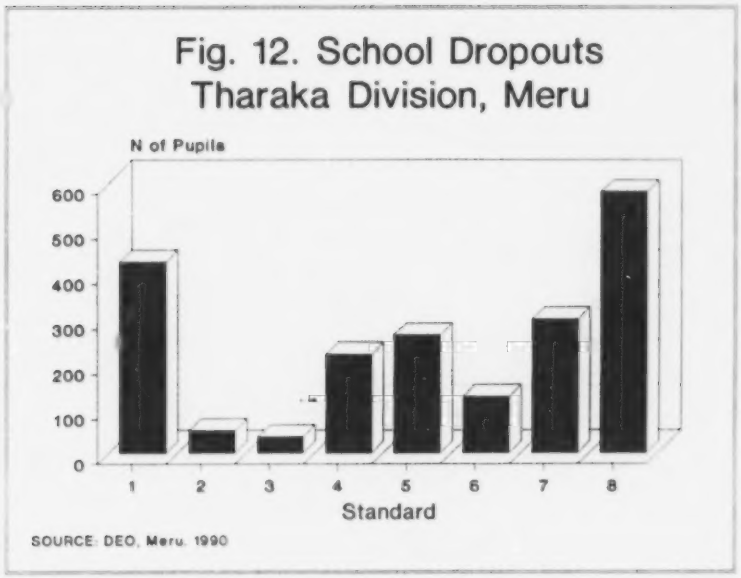


Fig. 12. School Dropouts
Tharaka Division, Meru
N of Pupils
600
500
400
300
200
100
0
1
2
3
4
5
6
7
8
Standard
SOURCE: DEO, Meru. 1990

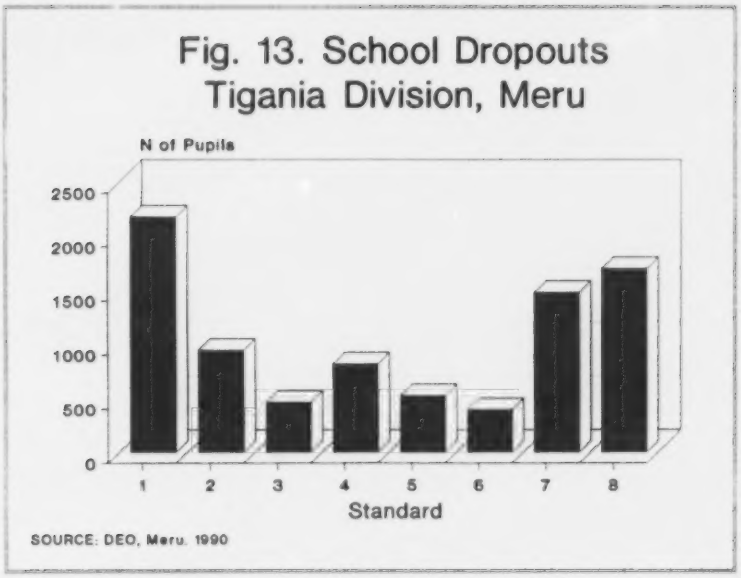


Fig. 13. School Dropouts
Tigania Division, Meru
N of Pupils
2500
2000
1500
1000
500
0
1
2
3
4
5
6
7
8
Standard
SOURCE: DEO, Meru. 1990

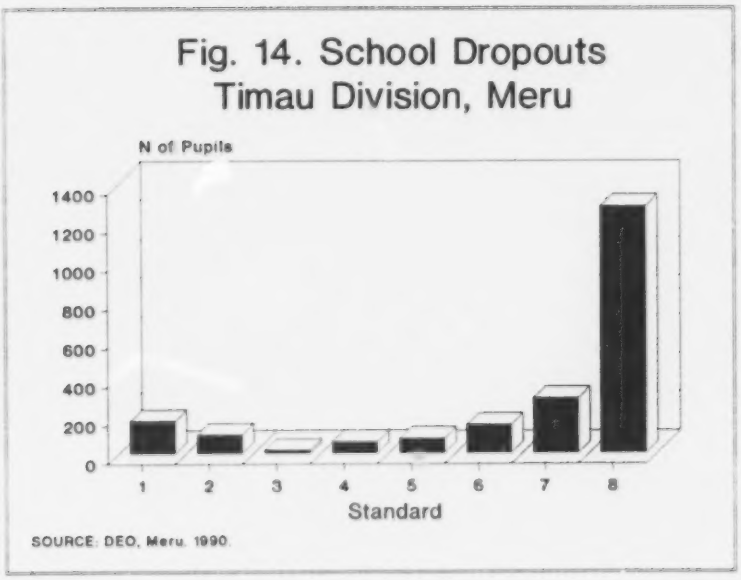


Fig. 14. School Dropouts
Timau Division, Meru
N of Pupils
1400
1200
1000
800
600
400
200
0
1
2
3
4
5
6
7
8
Standard
SOURCE: DEO, Meru. 1990

The health situation in Meru, the infant mortality rate is 84 per 1000 head of population.[37] The leading causes of morbidity recorded within the last six months are:

Table 4. Causes of Morbidity
Meru District

Causes	N of Cases Reported
Respiratory Infec.	299,454
Malaria	290,666
Intestinal Worms	86,224
Diarrhoeal Diseases	68,614
Skin Diseases	53,021
Urinary Tract Infec.	49,743
Eye Infections	40,518

SOURCE: 1990 Hospital & Health Centre Outpatients

Generally in the district the largest health problems among school-age children reported are: malaria, intestinal worms and respiratory infections. In the disadvantaged *marginal areas* (Tharaka, Ntonyiri, Tigania, Igembe) prevalent conditions include: malaria (and anaemia); ARI/pneumonia/measles; intestinal worms, diarrhoeal diseases; malnutrition; skin diseases; eye and ear infections and injuries (through accidents). Reasons for and underlying causes of health and nutrition problems in this district include: poor water supplies and sanitation (environmental and personal hygiene); insufficient food and seasonal hunger (in the marginal areas); lack of adequate health facilities; poor housing and ventilation; inadequate vector control; adolescent pregnancy, early marriage, single parents and unwanted children; underemployment and unemployment (especially in marginal areas); *miraa* trade, alcoholism; poor topography, roads and communications.

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[37]Meru health facilities include: Hospitals (two Government and four NGO); Health Centers (8); and Dispensaries (33 Government and 60 non-Governmental).

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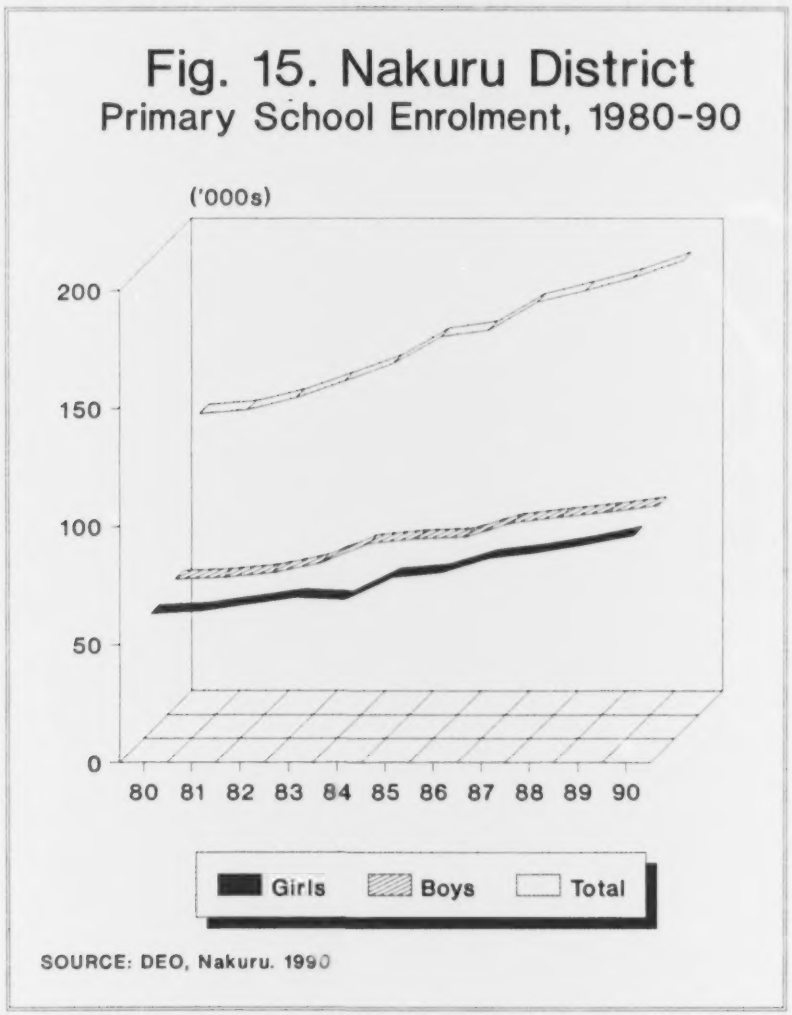
NAKURU DISTRICT

Nakuru District has a projected population of 1 million.[38] The high potential land in the district is found in Mau Narok, Olenguruone, Molo and upper Subukia. The medium potential zone consists of Bahati, Subukia, Njoro and parts of Rongai; the low potential zones and range lands include Gilgil, Naivasha, Longonot, Solai, Lower Subukia and parts of Rongai. There are 356 primary schools in the district [excluding schools in the municipality] with a total enrolment of 188,327 pupils.



[38]The district has 9 divisions: Municipality, Bahati, Navivasha, Njoro, Mbogoini, Rongai, Olenguruone, Gilgil and Molo.

Table 5. NAKURU DISTRICT
Problems in Primary Education

- Child Labour
- Hunger and Food Deprivation
- Insufficient Teachers
- Poverty
- Poor Water and Sanitation
- Climatic Conditions
- Poor Roads and Communication
- Health Problems

SOURCE: DEO & MOH Workshop Reports

Among the factors considered to influence school participation include:

Child labour

In areas of Naivasha, school children work on commercial farms during planting and harvesting seasons of the year; and on family lands they may serve as *scarecrows* and, they are used for gold prospecting or tending cattle. During the wheat growing season, children and teachers come to school for only a half day and cultivate wheat during the other half.

Hunger and food deprivation

In the Mbogoini and Solai areas, the combination of recurrent drought over the past years and poor quality of soils for edible

crop production have resulted in extended periods of hunger. In other areas, food supplies can be found inadequate (e.g., people may be able to eat only one meal a day).

Not enough teachers

Also in Mbogoini and Solai, primary schools are understaffed; there is a high demand for teacher transfer from schools located in marginal areas.

Poverty

In some areas, families are poor and unstable; many are unable to contribute to the development of school physical facilities.[39]

Water, sanitation and climatic conditions

Most schools do not have potable water or adequate latrines.

Poor roads and communications

Although school milk should reach all children, some schools are difficult to reach and may therefore not receive milk deliveries on a regular basis.

Health problems

Common health conditions contribute to absenteeism --- upper respiratory infections, malaria, diarrhoeal diseases, intestinal parasites, and eye infections. Early pregnancy is associated with premature dropping out of school among girls.

Cultural practices

During circumcision seasons boys may be away from school for extended periods. *Cattle rustling* in some parts of the district can result in children absenting themselves from school.

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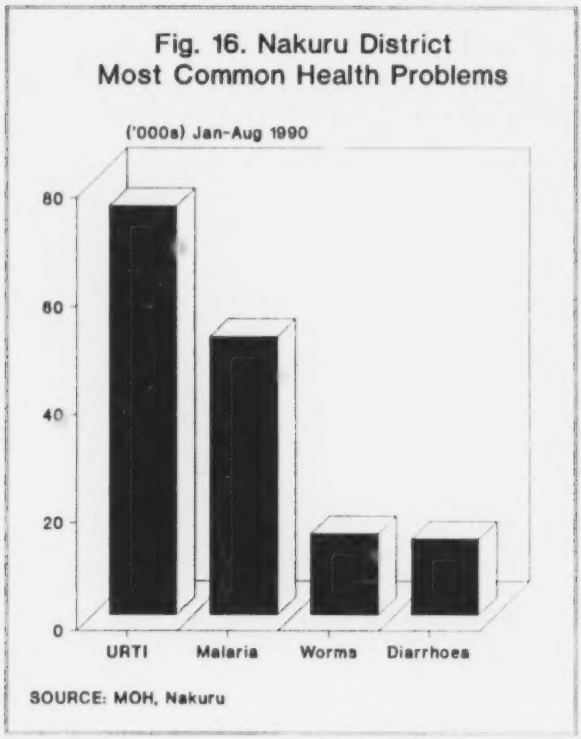
[39] In other arid and semi-arid parts of the country with similar problems (e.g., in Turkana, West Pokot, Samburu and some parts of Baringo District), there has been an effort to establish low-cost boarding schools.

Although Nakuru District is primarily a rich agricultural district, there are some divisions of the district with a prevalence of malnutrition and stunting. Malnutrition is prevalent among the children of the workers on many of the large-scale farms (e.g., on the sisal plantations in Rongai and in the horticultural farms around Naivasha). Malnutrition can also be observed on the coffee plantations of Subukia where little land is available for food crops.[40] In the slum areas of Rhonda, Bondeni and Hilltone estates of Nakuru Municipality, sanitation is found to be poor, water supplies often unclean; diarrhoeal diseases and poor nutritional status are especially frequent among young children.

Health facilities in the district include 7 hospitals (3 Government and 4 private), 15 Health Canters, 48 Dispensaries, and mobile clinics (run by the Catholic Diocese and by the International Christian Aid). Throughout the district the *primary health care* approach emphasizes community involvement, intersectoral collaboration and innovation in efforts to create greater health awareness and to identify felt needs of individuals and communities. The four leading health conditions in the district appear in the next figure.[41]



[40]Many employees of large estate farms are from other districts and therefore are landless; they earn between 500-600 KES/month.

[41]These figures include all groups (adults and children). The school-age population in the district is 291,023.

Observational Field Visit
in Nakuru District

Olenguruone
Mbogoini
Naivasha
Elementaita
Molo
Njoro

OBSERVATIONAL FIELD VISITS

2. Observational Field Visits in Nakuru District

One full day of the National Workshop was devoted to field visits by groups workshop participants to schools, homes and communities in Nakuru District. The purpose of these visits was to heighten awareness of all participants on the key development and policy issues relating to *child health, nutrition and educational participation.* Through field observation and unstructured interviews and in-depth discussions with teachers, pupils, personnel of rural health services, and selected members of the communities visited, it was expected that workshop participants would be able to better relate the issues and concerns raised during the first two days of the meeting to concrete realities. Furthermore, it was anticipated that the field visit would assist in the subsequent planning of the *baseline assessment studies* of the health, nutrition and other factors which affect the general welfare of school-age children, particularly their educational participation, and in considering cost-effective interventions to address these conditions. Six routes covering the district were mapped out for the field visits (see District Map). To each route was assigned an intersectoral team of 10-12 people.

Route 1 : Olenguruone Area

The visit to Olenguruone Division which lies approximately 60 kilometres west of Nakuru Town proved to be an *"eye opener"* to the team members.[42] This division, surrounded by Mau Forest, is hilly and criss-crossed by numerous streams. The area is inhabited by a small number of large-scale farmers (most of whom are *absentee farmers*), and a large number of small-scale farmers and squatters from different areas of the country. Major cash crops are tea and pyrethrum and subsistence crops are potatoes, vegetables and maize which does not grow well (it is said that the maize is so stunted that even when fully developed one can see at a distance a chicken in the maize plantation). There is also livestock. Though climatically suitable for farming, the agricultural potential of Olenguruone remains to be exploited. The primary schools, health facilities and homesteads visited are reported.

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[42]Members of this team were: Hon. A. M. Karauri, Professor J. A. Nkinyangi, Dr. S. Van der Vynckt, Mr. R. K. A. Towett, Mr. S. P. M. Kyungu, Mr. D. K. A. Sang, Mr. D. Gatheru, Mrs. M. Locho and Mr. A. K. Langat.

(1) Kiptenden Primary School and its Environs

The school compound covering 5 acres of hilly land is well-maintained except for its waste disposal facilities. The school catchment area is decreasing as other schools in the area are constructed. Presently, the pupils come from within a 2.5 kilometre radius. There were two classroom blocks, one permanent and the other semi-permanent (wooden clapboard). Ventilation and lighting in the permanent block (upper Standard classes) are adequate. However, the wooden building used for the lower classes is generally dusty and light permeates through the wooden walls creating a sunlight "glare" from certain perspectives of the classroom. Teachers in these classrooms report visual difficulties which could be associated with this lighting problem among certain pupils. The seating arrangement in the classrooms is crowded; four pupils may be found sharing one desk.

The classrooms are all the same size in both buildings resulting in crowding in Standards 1, 2, 3 and 4. Most textbooks are torn and there are no storage facilities for books in any of the classrooms. School milk cartons are stored in the staffroom. For the most part, school uniforms are tattered.

The school has 13 teachers all of whom were present at the time of the visit. There is a marked dropout out rate in Standards 6, 7, and 8 which according the Head Teacher is attributed to pupils transferring to other new schools in the vicinity. It remains unclear why transfers only take place in the later grades. It is likely that these transfers are related to repetition which is restricted by the Ministry of Education.

The water source for the school is a stream (a well is under construction). There are 2 latrines for the teachers which are clean and well-maintained. There are 8 latrines for the pupils which have no privacy and are extremely filthy.[43]

Among the common aliments reported by teachers are: headaches, diarrhoea, intestinal parasites, abdominal discomfort (perhaps related to diarrhoeal diseases and/or intestinal parasites), nutritional stunting, ringworms, eye infections, scabies and swelling of the legs.

Children said that they have tea for breakfast; some said they had ugali too (ugali is a staple meal consisting of cooked maize flour and water; it provides energy and bulk, but very little protein and other essential nutrients).

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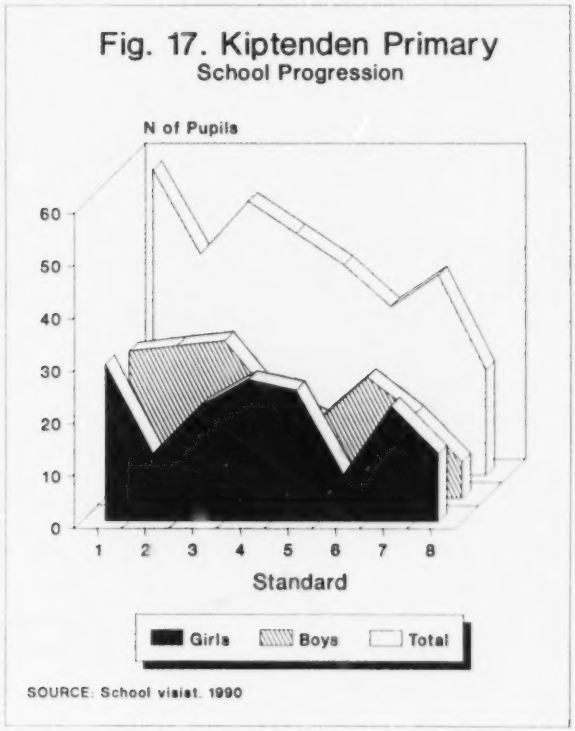
[43] Pupils do not wear shoes; their bare feet are exposed to the infected toilets.

Children are required to go home for lunch. However, some do not go home for lunch for lack of anything to eat once they get there. For those who eat lunch, ugali and cabbage or potatoes and cabbage are the most common meals.[44] There is an under-utilized school garden with pyrethrum and a few cabbages.



A farm homestead near this school was visited which consisted of 8 acres on which is grown maize, pyrethrum, cabbages, beans, potatoes, cows and chicken. The house has well-plastered walls. The ventilation, however, is poor (it is extremely smoky) and the beddings are tattered and dirty. The homestead is inhabited by 17 people; the total income of the extended family per month is about 200 KES (equivalent to US $8.70) which is primarily derived from the pyrethrum sales form their small family plot.

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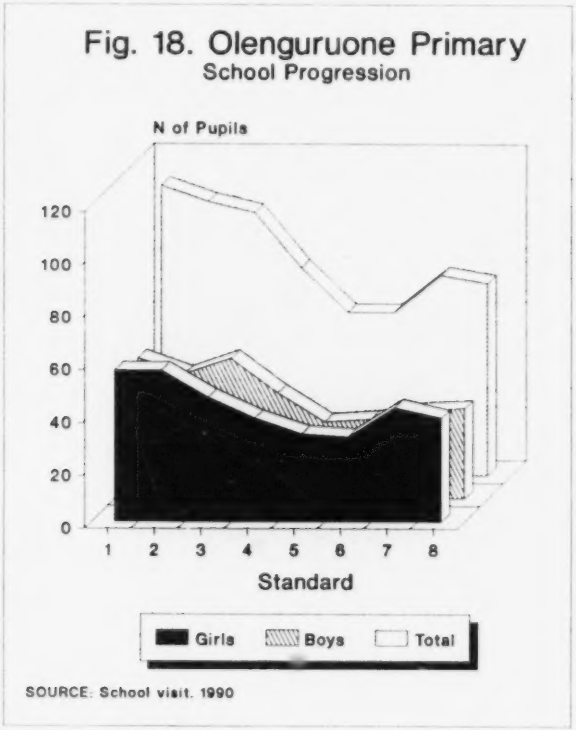
[44]These combinations do neither provide sufficient protein and or an adequate balance of essential nutrients.

(2) Olenguruone Primary School

The frontage of this school appeared well-kept, however, other areas of the school compound are in disarray and refuse disposal is poor. The lower grades are located in semi-permanent wooden clapboard buildings and the upper classes in a permanent building. Lighting (natural) in the permanent building is quite satisfactory whilst in the semi-permanent building it is poor (many of the windows had hinges broken and were permanently closed). At the time of the visit (mid-morning) the Head Teacher and Deputy were absent from the school and some of the girls were at the teachers' living quarters washing dishes. Lower grade classrooms are congested (4-6 pupils per desk) and two classes are doubled up in one room. Classrooms are all the same dimension despite the class size and desks are a standard size regardless of the number of pupils assigned to them. School uniforms are worn out (and appear to be the only clothes these children own).



The school water source is a stream and leaky tins are posted outside each classroom. [The leaky tins have been constructed as part of the health education programme to provide water for handwashing. However, at the time of the visit, these leaky tins were uncovered and breeding mosquitoes.] There were 9 latrines for girls, 11 for boys and 3 for teachers: all of them are clean.[45] There is an uncultivated school garden. Common ailments reported by teachers are: nutritional stunting, headaches, malaria, respiratory infections, eye infections, abdominal discomfort and ringworm. Children report having tea and ugali for breakfast; there is no school lunch programme. If food is available, children go home for lunch.

(3) Kiptagich Primary School

This school which covers a catchment area of mostly squatter families has 3.6 acres of land. The compound is clean and well-kept. There are two classroom blocks, both semi-permanent. Natural lighting in the classrooms is poor. When the weather is cold, the windows are kept closed (leaving little light in the classroom). Ventilation, however, appears good (children pour water on the floor to reduce dust). Children in this school, as in many other rural schools in Kenya, must buy their own desks. Since all classrooms are about the same size, there is crowding in the lower grades and relatively fewer pupils in the upper classes. Textbook storage is only available in the staffroom. School uniforms are tattered; for most children, these uniforms appear to be the only clothes children have.

The school was constructed in 1985 and since that time it has had no latrines for pupils. Pupils relieve themselves in the nearby bushes. The bushes are on the slopes at the bottom of which is the stream serving as the watersource for the school and the local community. Many children complain of stomachaches, no doubt a symptom of intestinal parasites and diarrhoeal diseases which are common. Children are now being sent home from school if their parents are unable to contribute to the construction of latrines.[46] In one classroom, a half of the pupils were absent because their parents had not provided their contribution for latrine construction.

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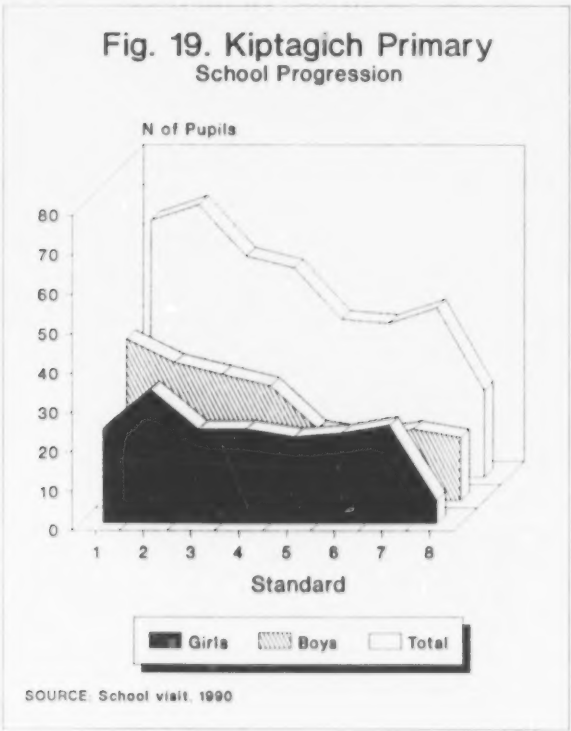
[45] In primary schools children are responsible for keeping the toilets clean. This is difficult in areas where water is scarce and especially unhealthy since children are barefoot and have only one school uniform as clothing.

[46] Construction of latrines has become critical since local health and education authorities threaten to shut down the school.

Poverty is considered to account, in large part, for pupils skipping school or dropping out altogether. Pregnancy is another reason. Other common health problems and complaints, besides intestinal parasites and diarrhoeal diseases, are malnutrition and stunting, upper respiratory tract infections/colds, fainting and headaches, and scabies -- conditions related to poor living circumstances. Pupils report that they have tea for breakfast, and most have nothing to eat for lunch. Teachers report that on any given day a significant number of pupils miss school because of lack of food and hunger.



4) Olenguruone Health Centre

The catchment area of this health centre is 6,000 inhabitants. The centre appears neglected [a new health centre is nearly completed]. It has three old rooms used for consultations, maternity care, MCH and examinations. Most common diseases found are diarrhoea and vomiting, malnutrition, abdominal discomfort, urinary tract infection, ringworms, goitre and eye infections.[47] The essential drug kits are received regularly but the quantities of dressings and anthelminthics contained in these kits are insufficient for the demand at the centre.

(5) Kiptagich Health Centre

Near Kiptagich school, this health dispensary had only an attending nurse. A large crowd was present on the afternoon of the visit. Among the main problems reported were malaria, upper respiratory tract infections, nutritional stunting and hunger, goitre, intestinal parasites, diarrhoeal diseases, eye problems. Most of the patients had no shoes and were scantly dressed despite the rainy, cold humid weather.

(6) Homesteads in the Kiptagich catchment area

The two homesteads visited near the school are squatters' homes. They are overcrowded, poorly ventilated and extremely dark inside. The families sleep on the earth floor and there are no latrines. They have tea for breakfast and potatoes for lunch. Wage earners of both families work on the farms of the *absentee landlords*. One family had 10 children; the mother was 35 years old and the father often comes home without pay. Workers wages in the area are usually in arrears for several months, and even when eventually paid, never in full.

Route 2: Mbogoini Area

The group in this team visited five primary schools, some health facilities, and a number of homes.[48]

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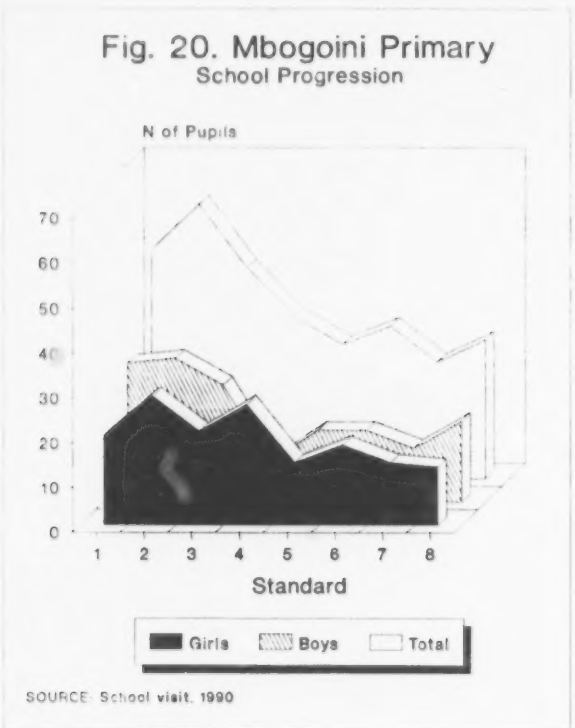
[47] Attendance at the clinic: antenatal = 70-80/month; Family Planning = 8-10 new cases/month; and other +100-110/month.

[48] This team consisted of the following: **Mr. J. G. Njoroge, Mr. J. O. Menya, Mrs. D. Omuse, Mrs. B. Shako, Mr. F. M. Koech, Mr. D. K. Sigei, Mr. T. N. Omondi, Mr. T. Ochieng, Mr. P. Mubuta and Mr. N. N. Waweru.**

(1) Mbogoini Primary School

This primary school, built in 1974, is situated on 12 acres of land. It has 10 permanent classrooms which have been constructed with support from the Catholic Church. Although the classrooms appeared adequate in size, desk space is crowded. There are no teachers houses. The school has four (4) pit latrines, two in unusable condition. The roof of one of the classroom buildings had roof water catchment and there are two concrete water tanks. The general appearance of the pupils are generally clean although the majority of children had only one school uniform and no other clothes. The teaching staff consists of 7 trained and 3 untrained teachers.



The highest rates of absenteeism among the pupils occur during the planting, weeding and harvesting seasons. One of the reasons given for the notable dropout rate in the upper grades relates to the "initiation" of girls.

The common health and nutritional problems reported by the teachers in this school are: malaria, upper respiratory infections and colds, nutritional stunting, skin diseases (ringworm, scabies and skin ulcerations) and minor injuries.

Children indicated that they had tea and ugali for breakfast and for lunch, ugali and sukumawiki (kale) or githeri (a staple meal of maize and beans). The school has not received any supply of school milk for sometime.

(2) Kamosop Primary School

The general impression of this school compound is fair. There are 6 classrooms in a premament building which has been constructed with support from the Catholic Church. Parents are constructing two additional classrooms on a self-help basis. The Standard 1 class is located in a temporary and unsatisfactory structure. There is a roof water catchment with an underground tank fitted with a hand pump and there was sufficient water in the tank.[49] Desk space is inadequate throughout the school so are the teaching-learning materials and textbooks. The school has only one latrine which is highly unsanitary. There are 2 staff living quarters for teachers and another two are under construction.

The school has a shortage of teachers (it has only 2 trained and 3 untrained teachers). Absenteeism among the pupils is highest during the dry season since it is related to the lack of food security. The dropout rate among girls is striking.

Common health problems reported are the same as those found in Mbogoini Primary School.[50] The team inspected the lunch packages of the children and found them of poor quality (these lunches consisted simply of "karanga" --- fried maize grains). The school milk supply has been irregular.

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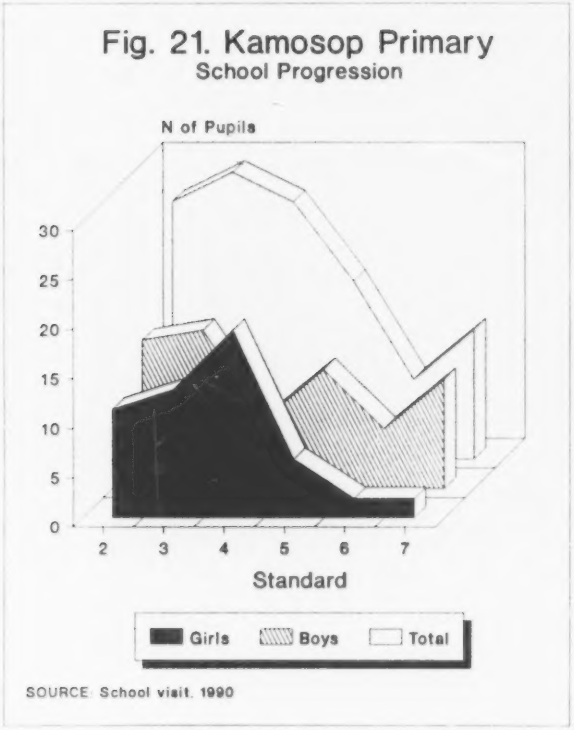
[49]The visiting team felt that this roof catchment should be emulated in other schools.

[50]The nearest health dispensary is 12 kilometres from the school which is far to walk, especially if the health problem is not an emergency.

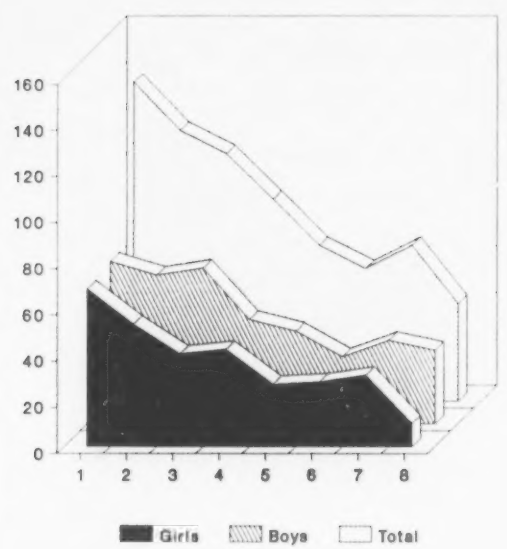


(3) Lower Solai Primary School

Although this school is built of permanent materials, it is poorly maintained. Desk space is inadequate; the teaching-learning materials and textbooks are poorly maintained and stored. There are 11 trained and 5 untrained teachers in addition to 2 nursery school teachers. The school has 6 pit latrines (3 for the boys and 3 for the girls) which are also poorly maintained and grossly insufficient for the school population. The high dropout rate, especially for girls, is indicated by the declining enrolment at each successive grade.

The health conditions were found to be the same as in the other two schools visited in this area. Open skin wounds were particularly observable among the pupils. For cultural reasons, children (especially the boys), do not bring lunch to school. For example, some boys think it is "unmanly" to carry food about. The school milk supply is also a problem; no milk has been received for sometime.

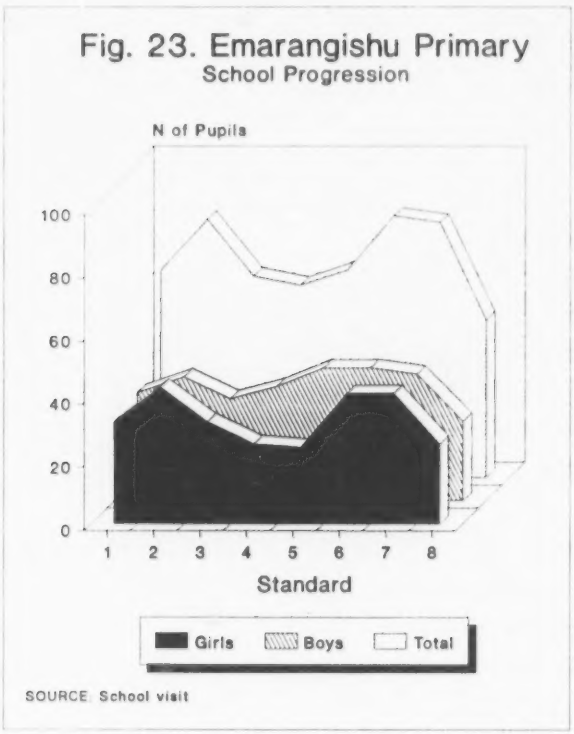
Fig. 22. Lower Solai Primary
School Progression



SOURCE: School visit, 1990

(4) Emarangishu Primary School

The construction of this school is good and well-maintained. There are flowers and trees on the compound. Desk space is inadequate; three or more pupils share desks designed for two. The Headmaster has prepared a schedule of duties for each teacher and gives the impression of doing a good job at managing the school. There are eight (8) pit latrines for the boys and one for the teachers; surprisingly, there are none for the girls. The existing latrines are unclean and poorly maintained. There are 12 trained and 3 untrained teachers. An additional teacher is required.



This school also has a marked dropout rate in Standard 8. Reasons for pupils absenteeism and factors contributing to dropping out of school include: (a) child labour --- boys may have to look for "kibarua" (temporary employment) to earn money to pay exam fees and buy textbooks; older children are often required to look after livestock and care for younger siblings; (b) cultural practices --- after initiation girls are married off, often against their will; and, (c) pregnancy.

Health conditions were similar to the other schools in the area; it was observed that 90% of the children had open skin wounds, many of the wounds were infected. Again, children do not bring lunch to school (presumably for cultural reasons); they are hungry all day. Delivery of school milk is irregular.[51]

(7) Mbogoini Dispensary

The first impression of this dispensary is excellent, it is modern and of permanent construction. Between 50-150 patients are seen per day by a staff of 3 health workers and 1 subordinate staff. The team felt that the cleanliness and maintenance of the building should be improved. There is a shortage of water due to vandalism. Among the common health conditions seen are malaria, upper respiratory tract infections, skin diseases, intestinal parasites and sexually-transmitted diseases.

(8) Lower Solai Dispensary

This is an old health facility of permanent construction with an examination room, treatment room and a store. It is poorly maintained. The water supply is lacking (all the water tanks are leaking). There are 2 health workers and 1 subordinate staff for a daily patient workload of 70-80.[52] Common health problems encountered are: malaria, gastroenteritis, upper respiratory tract infections, intestinal parasites and open skin wounds.

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[51] This team also visited **Chemasis Primary**. Having arrived after school hours only scanty information was collected. It was observed, however, that this school had permanent buildings which are well-maintained. There are 5 pit latrines for boys and 5 for girls which are generally satisfactory.

[52] It was observed that the personal hygiene of the health workers is poor; they are not setting a good example for their patients.

(9) Visits to Homesteads

The team visited two squatter homesteads. The first was headed by a single illiterate mother of 10 children and one grandchild. Five of the boys and 2 of the girls were in school. Two other girls dropped out of school in Standard 6 and 7. The staple foods in the home are ugali and sukumawiki, githeri and vegetables, and tea and milk. The house is plastered with cow dung. It is well-ventilated and there is a good latrine.

The second household visited was the home of an illiterate couple with four (4) girls and two (2) boys; two of the girls are already married and the other two dropped out of school in Standard 2. One boy is still in school and the other is a "turn-boy" (driver's assistant). The family does not have enough food and its members are persistently hungry. The family is very poor.

Route 3: Naivasha Area

The team visited primary schools, a health centre and some homes in the school catchment areas.[53]

(1) Longonot Primary School

The school has many buildings but appears neglected. It has inadequate desks and benches. The natural lighting in the classrooms is poor. Textbooks are few; pupils are required to buy their own books and the school committee is expected to purchase the required teachers coursebooks. The school has piped water from a borehole. The School Headmaster is popular with his pupils and their parents and dedicated to his work. The school is understaffed by 2 teachers (there are 7 teachers). Pupils attending this school come from slum-like settlements near the school. These are the homes of the migrant seasonal workers employed on large-scale plantation farms specializing in cut-flowers for export.[54] The teachers in this school are teaching and living under particularly harsh conditions.

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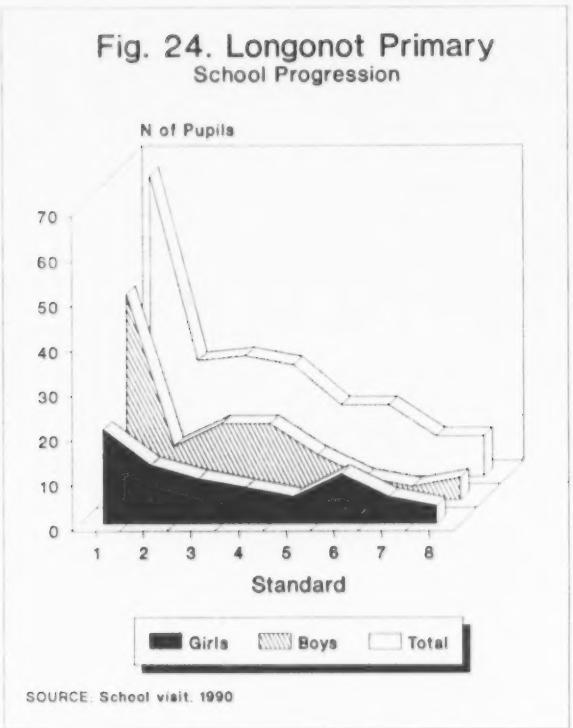
[53]The team consisted of **Dr. S. K. Yego, Dr. A. Sigot, Mr. C. Cherotich, Mr. E. R. Akunja, Mr. A. K. Njinju, Mrs. P. Malebe, Mr. F. Mallingi, and Mrs. J. Chanetsa.**

[54]The flower cultivating season is mainly from April to September. Labourers are sacked when there are no flowers to pick. Parents once sacked leave the area with their children, withdrawing them from school.



There is a significant problem of over-age children in Standard 1; children range in age from 6 to 13 years of age. Nutritional stunting is observed in all grades. On the day of the visit, the number of absentees in Standard 2 was extremely high. It was explained that pupils had been sent home since their parents had not contributed to the school development fund.

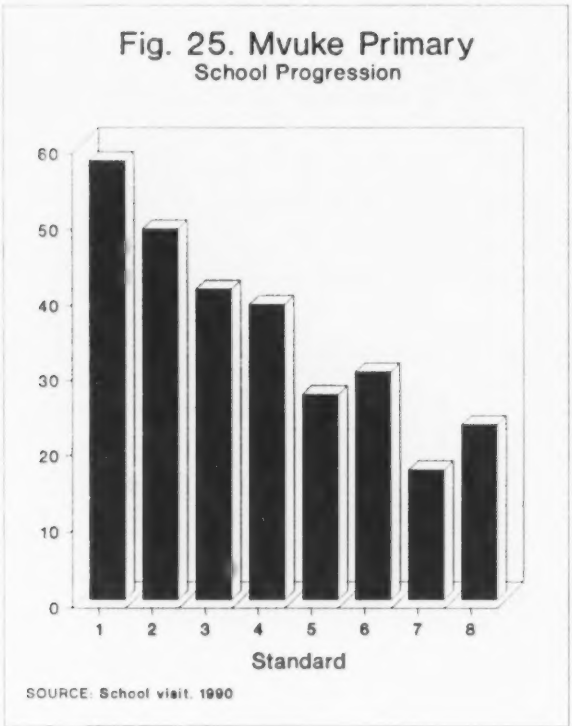
Many pupils are hungry; some come to school without breakfast and also have no lunch. The common meal in the area is githeri and ugali. There had been no delivery of school milk the third school term.

(2) **Maua Primary School**

This large school with a total pupil population of 1453 (with nearly a fifth of the children - 390 pupils - in Standard 1 alone) seems well-organized. The school is situated on the plantation of a local subsidiary of a multinational company involved in horticulture business. The company employs about 3200 workers, 700 of whom are casual labourers. The company provides physical facilities (e.g., teachers' houses, classrooms and latrines). The school has a day-care centre and a pre-school section with 589 children. There are 20 classrooms for 32 streams. Textbooks are inadequate; parents are required to purchase their children's books and the school committee required to provide teachers their coursebooks. The teaching staff consists of 25 trained and 6 untrained teachers (an additional teacher is required). The Headmaster is hard-working and keeps the school records accurately. The classrooms have poor natural lighting and are relatively dark. The latrines are clean but inadequate for the number of pupils in the school. The piped water in the school is not treated. Children eat lunch, but teachers indicate that what they eat is inadequate in both quantity and nutritional value. No school milk had been delivered to this school in sometime.

(3) **Mvuke Primary School**

This school has satisfactory, but insufficient physical facilities. The Kenya Power and Lighting Company contributes to the provision of classrooms, furniture, and teachers housing since most of the parents of this school as well are seasonal workers on the company's plantation. Overall, the pupils and teachers are presentable and the teaching/learning atmosphere generally good. On the day of the visit, the Headmaster was away on official duty and his Deputy was invigilating an evaluation test in another school. Consequently, there was no [or little] teaching taking place on that day in the classrooms of these teachers. The school had received 120 cartons of school milk which were found in the staffroom.



(4) [Plantation] Health Facilities

The available facilities consist of a well-maintained and staffed health centre offering services to all company employees and their children under the age of 15 years.[55] The main diseases seen are: malaria, diarrhoeal diseases and upper respiratory infections. Seasonal hunger and malnutrition are also common.

(5) [Plantation] Housing Facilities

The housing conditions for planatation workers are inadequate. This is particularly true of the housing around Longonot Primary School. For example, a typical home is a small, dark, poorly ventilated hut which may accommodate

[55]The health centre has 30 beds and an outpatient department serving about 4000 patients a month.

10 or more people (children and adults). Under such crowded conditions, it is difficult for pupils to perform homework. The sanitary conditions of the plantation housing facilities are poor. Latrines are inadequate and there are open gutters of refuse where small children often play unattended. Overcrowding and poor sanitation are conducive to the transmission of infectious diseases.

Route 4: Elementaita Area

The Elementaita team visited primary schools, a nursery school and health facilities.[56]

(1) Gilgil Township Primary School

The Gilgil Township Primary School with its pupil population of 800 and teaching staff of 18, has a well-kept compound on which one finds trees, flowers, shrubs and demarcated footpaths and grass lawns. Both the Headmaster and his Deputy were absent at the of the time of the visit. Although there are permanent classrooms with adequate ventilation and natural lighting, the maintenance of these facilities is poor. The latrines are unsanitary. The school has a piped water supply which is, however, not always reliable. All the classrooms are overcrowded. Nutritional stunting was observable in the classes visited. Teachers indicate that absenteeism is associated with illness but are unable to specify which absences are attributed to which of the conditions they observe regularly in the school (e.g., respiratory infections, colds, eye and skin infections, etc.). The supply of school milk to this school is irregular and inadequate.

(2) Township Nursery School

This nursery school which shares the compound with the **Gilgil Township Primary School** consists of one hall partitioned with hardboards. There is not enough space or seating facilities for the school's 155 children (ages ranging from 3 to 5 years). There are 2 permanent and 4 trainee teachers.

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[56]This team consisted of Dr. D. M. Njogu, Mr. W. G. Ireri, Ms. S. Bosire, Mr. D. Mutua, Mr. J. M. Wambua, Ms. A. Sithole, Mr. S. A. Rono, Ms. M. R. W. Kariuki, Mr. N. Okombo and Mr. B. Kimathi.

Among the children, nutritional stunting and respiratory tract infections were observable. The school has a feeding programme organized by the Nakuru County Council which provides porridge to children two times a week. Parents contribute 30 KES per term towards the cost of the programme. Teachers report that attendance is higher on the feeding days. The kitchen facilities which are also used to store the food supplies are unsanitary. Water is obtained from the Gilgil Township Primary School.

(3) Muthaiti Primary School

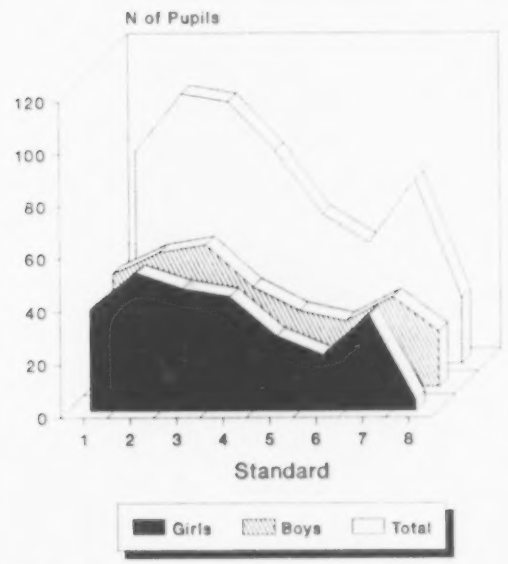
The Muthaiti Primary School compound is ornate with flowers and fairly tidy. The school with its 520 pupils and a teaching staff of 12, has a good administration. The classrooms and tuition blocks have earth floors, mud walls and galvanized iron sheet roofings. The community has constructed 4 permanent classrooms. The lower grade classrooms are overcrowded; there are also inadequate seating facilities or textbooks for these grades. The ventilation and natural lighting in the classrooms are poor. There are temporary pit latrines which are kept tidy; the piped water supply is unreliable. It was observed that the personal hygiene of the pupils was poor; they were dirty and skin and eye infections were common. Teachers reported that the immunization coverage of the pupils in this school was low despite the proximity of the school to the local health centre. There is a high dropout rate in the upper grades.

(4) Elementaita Primary School

This school is situated in a lightning prone area (the Government has had to install lightning rods). The school has permanent and semi-permanent classrooms which have adequate seating facilities.

The natural lighting and ventilation in the classrooms are poor. Although the school has piped water, its 4 latrines are insanitary. The dropout rates are pronounced in Standard 8, especially among girls.

Fig. 26. Elementaita Primary
School Progression



SOURCE: School visit, 1990

(5) Gilgil Health Centre

This health facility of permanent construction is well-kept with well-trimmed grass and no litter on the compound. The majority of the 14 member staff have housing accommodation on the compound. Some of the essential drugs were out-of-stock and much of the basic family planning equipment was unserviceable. Most of the latrines were closed due to shortage of water or malfunction; the few in use were found unsanitary. The treated piped water supply is not reliable. The team felt that the staff should cooperate more with the community on activities to promote better health.

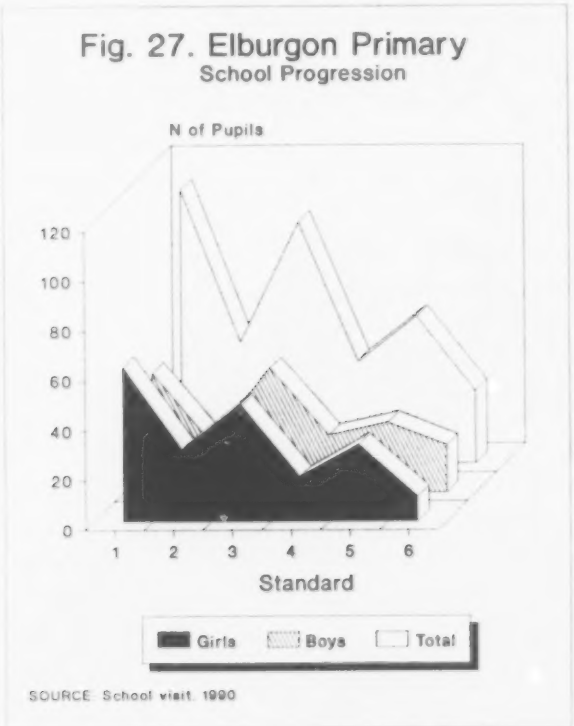
(6) Kiambogo Dispensary

This dispensary which is a renovated timber farmhouse offers only curative services. The staff consists of one health worker and 2 subordinates. A maternity ward is being constructed by the community and the Rural Development Fund is assisting with the construction of a staffhouse. The pit latrines are fairly clean. The team thought that MCH and Family Planning Services should be integrated with the present curative services and that the centre's field staff should be increased and made available to visit schools in the area.

Route 5: Molo Area

(1) Elburgon Primary School

Molo Division has a population of 250,000. The team first visited the **Elburgon Primary School** which serves both urban and rural pupils from its densely populated catchment area.[57] This school which was started in 1988 has a pupil population of 402 (207 girls and 195 boys). Located on a hilly slope, the school has a 2-acre shamba which consists of maize, vegetables, potatoes and onions. When the team arrived in the morning, the teachers were not in their classrooms -- they were actually basking in the sun. Both the Headmaster and his Deputy were absent, reportedly in Nakuru attending to official matters. The teaching staff consists of 6 untrained and 5 trained teachers. Since the school is relatively new, some structures are not yet finished; there are 6 classrooms for 9 streams. The desk arrangements in the classrooms are disorderly; some children were found with their backs to the teacher. Textbooks and teaching aids are inadequate in all classes. The staffroom is used as a store. The school has a temporary block of pit latrines partitioned into 4 compartments. The wooden floor of the latrines (which is ready to cave in) was wet with urine and alot of faecal matter. The teachers had their own pit latrines.



[57]This team consisted of: Mr. F. Were, Prof. R. Oniang'o, Mr. R.R. Odeng, Mr. I. R. Mwania, Mr. K.A. Ajode, Mrs. I. Njaga, Dr. Ngira, Mr. A.N. Muindi and Mrs. Ageng'o.

The ages for Standard 1 are 6-7 years, for Standard 3, 8-9 years and Standard 6, 14-15 years.[58] Due to the limited facilities, pupils are on double shifts. There is a strong Parent-Teacher Association (PTA). The PTA bars attendance of children whose parents have not contributed to the development of the school (e.g., either in the form of money or labour). Parents may keep children away from school to fetch water at the nearby sawmill where water is free (piped water in the village costs 0.50 KES for every 20 litres). Children are also employed in other domestic chores which make them miss school. Although Elburgon is a high potential agricultural area with a lot of foodstuffs especially greens, beans and potatoes, most of the children in the school are nutritionally stunted. No school milk had been received for sometime.

(2) Elburgon Township Pre-primary School

The pre-school has two temporary buildings, fabricated from offcuts of building timber. It has been constructed by parents of the catchment area (previously the school was located in an old beer hall belonging to the County Council). Each term parents are required to contribute 30-40 KES for paying teachers which are not paid by the County Council. The school has no playground, only an open public field. There are desks and benches; the floors are muddy. Teaching aids are poor improvisations.

The school has four trained teachers and one untrained teacher. The "baby class" has 96 pupils (ages 4-5 years) and the "pre-school" class has 93 pupils (ages 6-7 years); two teachers are assigned to each class.

Though appearing alert, many of the children at the pre-school were markedly stunted. On the day of the visit, many had colds and respiratory infections. The children carry water in bottles to school to drink and sprinkle on the floor when it is dusty. Previously, when the school was located in the beer hall, there was a feeding programme. Unfortunately, these feeding activities have been abandoned in the new facilities due to the lack of a shed (or kitchen) for cooking.

(3) Nyanda Primary School

The school buildings are scattered over 20 acres of land; some of the classrooms are as much as 500 metres apart. The compound is well-drained and

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[58] Since the school was started in 1988, it has only reached Standard 3; those in Standard 6 have transferred from other schools.

the grass short. There are 15 classrooms for 11 streams and 17 teachers for a pupil population of 386 (188 girls and 180 boys). Textbooks and teaching aids are purchased by parents and the school committee through the sale of farm produce. The school has a poorly maintained shamba; much better use could be made of the available land resources. Teachers have only two tiny staff rooms.

Teachers indicated that pupil absenteeism is due to sickness or the fact that parents are unable to contribute to the school building fund. Some pupils are employed as cheap farm labour.

Many of the pupils are stunted. The latrines are extremely dirty and the floors were covered with faecal matter. Pupils are encouraged to carry food to school. School milk is supplied on a regular basis.

(4) Nyanda Pre-Primary School

The pre-school provides a sharp contrast to the primary school. The pre-school building is an old run-down farmhouse. There is no playground. The school latrines are poor. There is one untrained teacher for 53 children. To cope with the large enrolment, the teacher has divided the class into four groups (on the basis of mental abilities). She has no teaching aids apart from a chalkboard.

Most of the children appear weak and lethargic; many are nutritionally stunted. They had runny noses and respiratory infections. Many had torn uniforms or clothes; none had sweaters and all of them seemed cold. On the day of the visit, children had no food for lunch (on the contrary, at the adjacent primary school most children had brought something for lunch).

(5) Elburgon Health Centre

This is a beautiful new structure which has been recently opened (September 1990). It has a well-kept and drained flowery compound. The catchment area of the centre is a 15 kilometre radius. Although the health centre is well-staffed, it remains under-utilized since it still lacks basic supportive structures such as a kitchen, a maternity wing, x-ray facilities, staff houses and a laundry unit. On the other hand, the utility has a good supply of drugs and a lot of expensive equipment not in use. Common health problems observed are upper respiratory tract infections, malaria, sexually-transmitted diseases, scabies and other skin diseases.

(6) Molo Hospital

This is a poorly maintained hospital with a large catchment area (estimated population 250,000). It is situated in an old colonial building. The bed hospital's bed capacity is 54; the general patient load is 80-100 per day. The flow of patients in the treatment process is rather slow. Cleanliness in the wards also appears to be a problem. Since the hospital is an old unit, there is no functional maternity unit, kitchen or isolation ward. The Lions Club of Nakuru has promised to provide the hospital with a paediatric ward. Among the top four diseases reported are: pneumonia, upper respiratory tract infections, malaria and scabies.

(7) Home Visits

The team visited an area of high potential land on which many squatters have recently settled. The homes visited seemed to have reasonable access to basic services. For example, the Molo hospital and the local primary school are nearby. Piped water can be purchased for 0.50 KES per litres or obtained free from the neighborhood sawmill. The rural access roads are generally good. There is busy periodic market and the local shops are well-stocked with reasonably priced goods.

One of the homes visited belonged to a single mother with 6 children and the other to a couple with 8 children. The heads of both households are employed at the sawmill. Their families live in one-room homes (monthly rent is 75-150 KES). Natural lighting and ventilation in both homes was extremely poor. The pit latrines of both homes are of temporary structure and poorly maintained. The family of 8 is landless. The single mother, however, has a kitchen garden from which she obtains produce to sell and feed her family. Some of the children from these two families were in school; others, it was told, refused to go to school. On the day of the visit these children were found by the roadside playing cards. Three of them from the family of 8 had been sent home from school due to their parents' inability to contribute to the school building fund and/or pay examination fees. The father of this family reproached the teacher for expecting too much money from them.

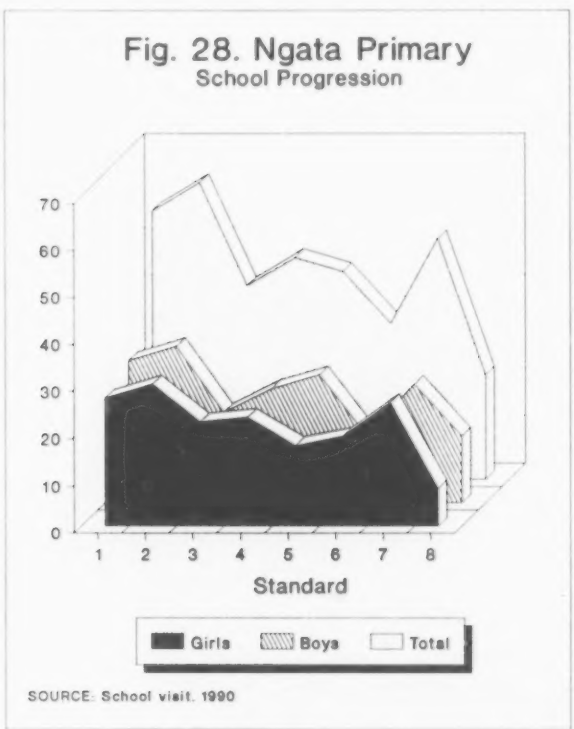
The fifth child of the single mother had full-blown kwashiorkor and her last born was very underweight. This woman has received no family planning counselling.

Child labour appeared quite prevalent in this squatter neighborhood; in the early morning children were found carrying water (a very stunted 8-year-old child was carrying a 20-litres container of water on her back).

Route 6: Njoro Area

(1) Ngata Primary School

The team first visited . e Ngata Primary School.[59] The school has permanent buildings and is situated in farmlands (with no boundary fence). Textbooks are inadequate in all grades. Desks are inadequate in some classrooms; the Standard 1 streams are all in one room. The latrines are inadequate and dirty. All the school's 14 teachers are trained.

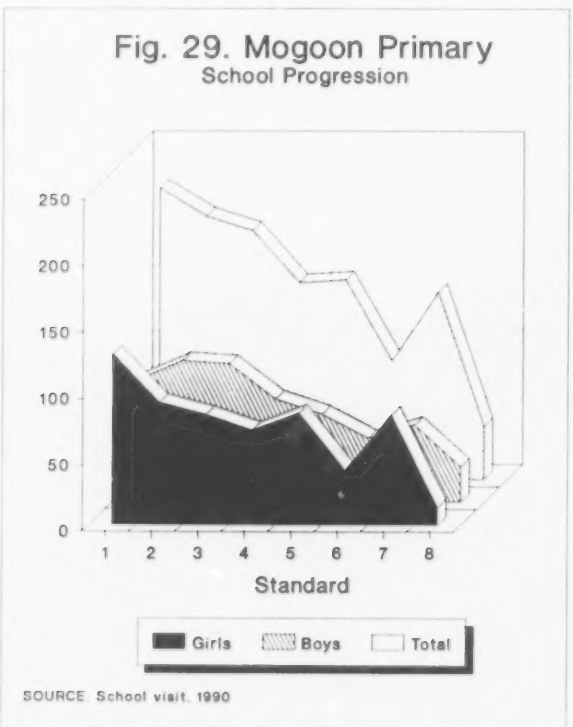


[59]This team consisted of Mr. N. King'ori, Mr. H. Mtsumi, Mr. A.B. Rotich, Mrs. C. Nyagah, Miss R.L.K. Wamatuba, Mr. J.E. Odhiambo, Mrs. S. Mogaka, Mr. E.A. Imbayi, Mr. E.J. Odongo, Mr. Bakari, and Mr. N.Z. Otieno.

Common health problems among pupils are: chest pains, stomach aches and intestinal worms, malaria and associated headaches. Scabies and other skin infections are very prevalent due to the shortage of water in the area. Some of the school uniforms were very dirty. Pupils say they have tea for breakfast and they go home for lunch. Twice a week fresh school milk is delivered. The school has a 40-acre wheat farm; through help from the school committee, 50,000 KES worth of wheat was harvested in 1989. The money earned was used to build a home science block.

(2) Mogoon Primary School

Situated on a small plot, this school has both temporary and some permanent buildings under construction. Pupils come from nearby rural or peri-urban communities. There are not enough textbooks and teaching aids. Four ventilated improved pit latrines ("VIP" latrines) are under construction and 4 ordinary ones are in use.There are 23 female and 11 male teachers. The school's PTA has undertaken the construction of a classroom and the VIP latrines.

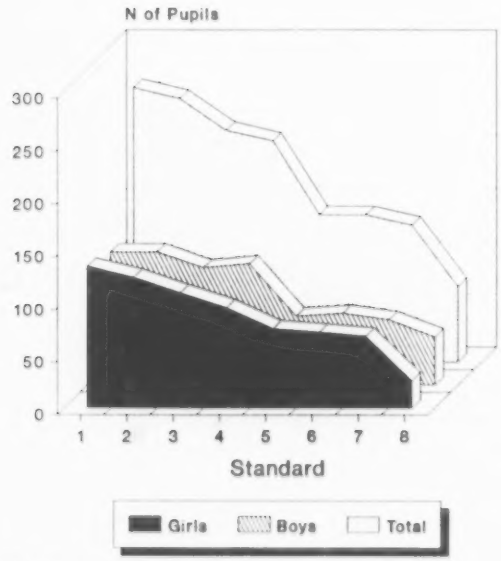


Stunted pupils are observable and there are many pupils with scabies and ringworm. In addition to sickness, other reasons for absenteeism include child labour (tending livestock) and peer group pressure to skip school and to loiter in town. School milk (UHT) is received regularly.

(3) Barut Primary School

This school has a clean fenced compound with flowers, a tree nursery and a school garden with tomatoes. One building is under construction and 2 others are not yet complete but in use. There are 4 temporary buildings all in full use. There are 31 female teachers (6 of whom are untrained) and 8 male teachers (3 of whom are untrained). Textbooks and teaching aids are insufficient. Teachers say that some parents are not serious about their children's education since they allow some of their children to look after the cattle during school days. The school's PTA is not very active; parents are reluctant to contribute to the development fund due to their precarious financial situation. This school receives school milk (UHT) regularly.

Fig. 30. Barut Primary
School Progression



SOURCE: School visit, 1990

(4) **Njoro Health Centre**

This health centre has a permanent building with a clean compound. It's adequate capable staff attends to about 100 cases a day. The common problems encountered are: respiratory infections, malaria and intestinal parasites.

(5) **Langalanga Health Centre**

This centre also has a clean compound and a beautiful permanent building. It is also well-staffed and also attends to about 100 cases a day. Common problems found are respiratory infections, intestinal parasites and sexually-transmitted diseases.

(6) **Home visits**

The first home visited belongs to the fourth wife of a relatively wealthy local farmer/businessman. She has 5 children (3 are in primary school). She has 37 acres of land on which she cultivates maize and wheat and rears dairy cattle and hens. Her permanent house has electricity and a permanent pit latrine. She has her own farm equipment (a tractor and trailer and maize planter). She has roof water catchment, but is inadequate.

The second home is a male-headed family of 10 children (3 are in school and the others have either left school or are married). The house is permanent with electricity, piped water and a pit latrine. The compound is clean with a well-pruned hedge. They have cattle and hens and vegetables and fruit trees (oranges) in the fields. The family owns a television set.

The next home is that of the 5th wife of a local farmer. She has 5 children (2 in school, 3 have completed schooling). The house is also permanent with electricity, and a permanent pit latrine. There is maize, beans and wheat under cultivation.

The team then visited some slum-like settlements. The first dwelling was that of a single-mother with 3 children (2 go to school). They all live in a 12-by-15-foot room rented for 50 KES/month. The room has an earth floor and mud walls; the outside compound is littered with refuse and human waste. There is no piped water. The children have tea and porridge for breakfast. The third child had a bad case of diarrhoea. The second one-room slum home rented for 40 KES/month also has a mud floor and walls. It belongs to an unemployed woman with 4 grown up children. The compound is untidy. The family mainly

subsists on tea and ugali. The last one-room home is that of a single unemployed woman. The monthly rent is 35 KES; there is no water and the latrine is filthy.

While each of the three large land owning families are relatively well-off; the slum dwellers are very poor and live in highly unsanitary conditions.

3. General Remarks on Observational Visits

The six teams which undertook field visits were able to observe a random sample of primary schools, health centres and homesteads across the district. The findings of each team described above contain a number of common observations:

Primary Schools

- **School buildings and facilities**

  Nearly all schools are a combination of permanent and temporary buildings. Some are well-maintained with clean compounds; others are poorly maintained with unkept and littered compounds. The temporary buildings are always used for the lower grades which have the highest enrolments. Regardless of the number of pupils in each class, the classroom size is generally standard; the lower grades, with the largest classes, are confined to the same classroom space as Standard 8, often with relatively fewer numbers of pupils. Desks and benches are inadequate at least in the lower grades in all schools. Children crowded on a bench sharing a desk, easily contaminate each other with colds, coughs, skin and eye infections which were found very common in the schools visited. There are problems of lighting and ventilation in most semi-permanent/temporary classrooms, particularly those in the temporary buildings. When the weather is cold and humid, windows are kept shut and classrooms are dark and poorly ventilated. Where there are wooden clapboard walls, a substantial amount of glare is created by sunlight permeating the walls. Further study is needed to determine the extent to which this "glare" is associated with the visual problems of pupils reported by teachers. Classrooms with dusty earth floors and poor ventilation make for an environment that easily transmits communicable

diseases. Storage areas for books are lacking and many staffrooms offer little work and meeting space for teachers.

Few schools have piped water (sometimes not reliable), others have roof water catchments and others have their water sources (from streams, wells) near latrines -- with a high likelihood of contamination. Some schools were found with no latrines for girls and/or boys. Others have clean though not an inadequate numbers of latrines for their school populations. A significant number not only have few latrines and their condition is dirty and foul smelling. Children without shoes and who are unable or do not wash their hands after using the latrines run high risks of worm infestation. Refuse disposal is generally poor. A few schools had productive school gardens, some had non-productive ones and others had none at all. There is a general problem in the provision of staff housing.

- **The teaching-learning environment**

The lower overcrowded grades in poorly lighted and ventilated classrooms are not in a conducive learning environment. Inadequate textbooks and teaching aids exacerbate problems created by poor physical facilities and declining teacher morale. All schools are short of one or more teachers. Some teachers were found to be poorly dressed -- an indication of declining living standards among the cadres.

- **Trends in grade enrolment and school progression**

Progression from Standard 1 to 8 is uneven in all schools. As the enrolment data show, in many schools there is pronounced decline in enrolment from Standard 1 to Standard 8. Wastage is highest in the early and later grades. Small Standard 8 classes contrast sharply with the large Standard 1 classes. From inquiries among Standard 8 pupils, in fact, there were usually few children of the initial Standard 1 cohort still in school. In general, there is more wastage among girls than boys in both early and later grades. In addition, there are significant numbers of pupils who are above the stipulated age for their grade -- no doubt an indication of late entry or the phenomenon of "dropping in and out" of school. Thus, a

Standard 1 teacher may find himself/herself with a class of children ranging between 6-13 in age. Poverty is considered to account in large part for dropping out. Children of casual seasonal labourers will migrate with parents. Adolescent pregnancy and early marriage are reasons for some girls leaving school prematurely.

* **Health and nutrition status of the pupils**

Nutritional stunting (children small for their age) was easily observable especially in the lower grades. Colds, coughs and respiratory infections are common. Skin and eye infections are prevalent. Teachers report and children complain of abdominal discomfort (perhaps from diarrhoea and intestinal worms), headaches (presumably associated with malaria which is endemic in many parts of the district), hunger and fainting. Adolescent pregnancy is also found. Many children have only tea for breakfast. None of the schools visited had any feeding programmes. Children either go home to eat, some bring lunch (often of poor nutritional value) and an important number do not eat lunch at all. The general nutritional quality of the food eaten is low (even in the high potential agricultural areas). Although goitre was not observed by the teams (except among adults in the Olenguruone area [Route 1]), iodine deficiency disorders are just as likely to be present among the school-age population (see earlier discussion on micro-nutrient disorders). The school milk situation was examined in 13 of the schools. Only 5 schools were found to receive supplies regularly. The School Milk Programme does not seem to be living up to expectations. The personal hygiene of many school children is poor. School uniforms are often worn out; for many children the school uniform may be the only clothing they possess.

* **Pupil and teacher absenteeism**

Pupil absenteeism is pronounced in all schools. There is no systematic record keeping in schools on reasons for absenteeism. Teachers, however, point to a number of common explanations: sickness, child labour (helping during the planting, weeding and harvesting seasons, looking after livestock, fetching water, fishing, caring for siblings, etc) and truancy (some children go off to the

town). Moreover, when children go home for lunch and find nothing to eat, they do not return for the afternoon. Children may also be sent home from school if parents are unable to contribute to the school building fund, latrine construction, or pay examination fees.

Absenteeism among the teaching staff is just as prevalent as pupil absenteeism. On any given school day pupils reported that one or more of their teachers were absent. Since teachers are assigned to specific classes (Standards), during their absence no learning usually takes place in those classes. Teacher discipline, as can be expected, is slack when both the Head Teachers and their Deputies are absent. In one school, for example, all the teachers were found outside basking in the sun during class hours.

- **Schools and communities**

In schools where parents are able to contribute funds and other resources, there are active PTAs. Parents assist with the building of new structures (e.g., classrooms and the setting up of latrines), with the provision of textbooks and with setting up school gardens. In some schools, the PTAs restrict the attendance of pupils whose parents have not contributed to the building or school development fund.

- **Pre-schools**

Among the pre-schools visited, the facilities were found to be poor and overcrowded. Some pre-schools have a feeding programme for which parents are required to contribute a fee each term (in some establishments about 30 KES a term for provision of food twice a week). The kitchens of these pre-schools, however, are generally unsanitary. The majority of pre-schools, however, do not have any feeding arrangements for the children. In these institutions, nutritional stunting, colds and respiratory infections, skin and eye diseases, and general lethargy are easily observable.

Health Centres

Except for a few new health centres, most of the health facilities visited leave a lot to be desired. The cleanliness and maintenance of some centres could be improved; some latrines are unsanitary. Examination of records and interviews with the staff of the health facilities regarding common health problems in the district coincides with what is observed in the schools visited: malaria, respiratory infections, intestinal worms, diarrhoeal diseases, malnutrition, skin and eye infections and goitre. Iodine deficiency appeared to be endemic in parts of the district. Cases of goitre were observed at a number of health centres (e.g., in the Olenguruone area).

Households and Homesteads

A striking difference is found in the living conditions of families that own land and those that do not (e.g., squatters, especially those working for absentee landlords). Families are large, some headed by single parents. The living conditions are deplorable among the landless, the squatters, and slum dwellers. Space is limited, consequently there is no appropriate place or environment for homework. In addition, lighting and ventilation are deficient. Overcrowding in the home is conducive to the transmission of infectious diseases. Latrines in most homes were found on the most part to be filthy and a regular supply of potable water to be at a premium. More in-depth debate and analysis are needed to ascertain parents aspirations and expectations for their children's education. Dropouts were found to be relatively higher in larger families than in smaller families.

PART THREE

1. Planning Assessment Activities

As was alluded to in the introduction of this Report, it was agreed at the Planning Workshop that the first phase of the Kenya Country Project on "child health, nutrition and educational participation" should consist of *baseline assessment studies*. The objective of these studies is to examine general issues, such as the links between social, cultural, and economic factors which are related to health and nutrition conditions and educational participation. A dynamic analytical model is anticipated, taking into account, for example, the relationships between these sets of variables as well as the impact of Government interventions in different spheres of life. Of particular relevance will be an examination of specific Government policies (e.g., the on-going structural adjustment reforms) on the ability of individuals, families, and communities to obtain access to basic needs and services (e.g., food, water and sanitation, shelter, health care, education, clothing, etc.).

More specifically, the assessments will focus on the impact of general structural adjustment reforms on the operation of the education and health systems in terms of: (a) limiting increases on staff salaries, allowances, training and upgrading, recruitment of new cadres; (b) the construction, maintenance and upkeep of buildings and facilities; (c) influencing access to services in terms of limiting, for example, the provision of educational materials and medicines and other health supplies; and, (d) the extent to which heightening disparities in access to services, or more appropriately, non-participation, may be related to increasing social differentiations among individuals, communities, and social groups especially at times of economic and other adversities.

For educational concerns, an attempt will be made to answer such questions such as: (a) are individuals, families, and communities beginning to loose faith in investing in schooling? (b) if so, what are the indications of this? What, for example, is the role played by general dissatisfaction with the inherited curriculum? How is the tide of rising "educated unemployment" contributing to this process? (c) how do families arrive at the *decision to educate* under circumstances of economic austerity and, in this regard, are they making conscious decisions between their male and female offspring? among children of different "co-wives", etc.? (d) what are the likely social and political implications in the short and longer terms for individuals, families, the community and the general geographical area of unequal participation in schooling?

For the health sector, similar questions will need to be formulated in order to unravel the issues of differential access to the health services and the consequences of these on human development understood in its widest perspective. Other assessments will also need to consider general and specific concerns in other domains, for example, issues of food security (e.g., agricultural production, food distribution, etc.) on the health and nutrition concerns of school-age children and, just as importantly, the coincidence of health and nutritional conditions and social and economic conditions.

Workshop participants were divided into three working groups to deliberate on the issues raised above and to outline *baseline assessment needs*. Each group was inter-disciplinary in its mix of people and provided with a different (but related) set of "discussion points". One group focused on educational assessments, another on social, cultural and economic assessments, and a third on health and nutrition assessments. The main task of each of the three groups was to begin to define in "operational terms" the parameters for the assessment studies in the three specified areas of inquiry.

The working group on *education assessments* gave much thought to the wide ranging impact of reductions in government budgetary expenditures on the provision of universal education. It looked more specifically at the impact of the Government's "cost-sharing" policy on school participation in disadvantaged communities as well as on other sections of society (as observed during the field visits). In cost-sharing, the Government provides schools with teachers, pays their salaries, and develops the curriculum. Parents, on their part, are required to provide physical school facilities, purchase textbooks and uniforms. The cost-sharing policy and the realities in the field as encountered during the observation visits provided further insights into how cost-sharing is evolving and especially the burden borne by communities where parents may be poor and are unable to make the necessary contributions to school development or to pay examinations fees. The field visits also illuminated the problems of understaffing, the poor working and living conditions of teachers, the preponderance of untrained teachers in many schools, low morale among the teaching force, and the cumulative effect of all these problems on the teaching-learning environment and children's progression through school. The field visits enhanced the general understanding of how restrictions in government expenditures in education may be affecting the provision of schooling especially among the disadvantaged groups and regions of the country. Additionally, the *education assessments* group, as well as the workshop participants in general, were more sensitized on the processes through which, over time, social

disadvantages may quickly be translated into educational as well as health disadvantages.

For the *education assessments*, the group felt that the operation of the education system could be examined in terms of specifically measurable variables for various districts or administrative divisions within a district, disaggregated alongside important dimensions such as gender, parental socio-economic standing, levels of schooling, etc. The following is a brief listing of such key variables (not in any order): gross enrolment ratios to gauge the level of "democratization" of schooling in the area; the proportion of pupils enroled by grade; the percentage of pupils in Standard 1 reaching Standard 8; school attendance trends for boys and girls during the school year/term and the most frequently offered reasons for school absences; repetition and dropout patterns over the last few years and the plausible reasons offered to explain this (including poor performance, illnesses, erratic school attendance, and so on); classroom interaction processes; and parental educational and occupational aspirations and expectations for boys and girls.

The working group on *social, cultural and economic assessments* dealt with the complexity of issues surrounding the provision of basic needs and services, including, of course, education and health care. The group reviewed past Government policies that have had a favourable impact on individuals and families in terms of the delivery and accessibility of basic needs and services.[60] The group was concerned about the extent to which the provision of education is meeting people's expectations and, more specifically, the degree to which the new 8-4-4 educational reform is making education more relevant and appropriate to the needs and aspirations of individuals, families and communities. The group also identified factors contributing to school participation and non-participation: availability of schools, their physical facilities, teaching materials; accessibility of schools in terms of distance; economic levels of families and communities (e.g., their ability to contribute to school development and the need for child labour); availability and motivation of teachers and other educational personnel; parental and societal awareness;

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[60]Some key examples were given: 1963 - the KANU manifesto which pronounced government policy toward the eradication of ignorance, poverty and disease (*Harambee* spirit as a guide); 1965 - Sessional Paper No. 10 which prescribed African socialism and its application to planning in Kenya; 1974 - Presidential Directive on abolition of school fees in Standard 4 and its eventual extension to Standard 7 by 1978; 1979 - Reinforcement of *Harambee* spirit with the Nyayo Philosophy of peace, love and unity; 1979 - Presidential Directive on free milk for primary school children; 1981 - Sessional Paper on food policy; 1981 - School Feeding Programme in ASAL areas; 1975-85 - Recommendation from the Women Decade Conference, Nairobi; 1984 - Launching of the District Focus Strategy for Rural Development; 1985 -Introduction of the 8-4-4 Education System; 1986 - Sessional Paper No. 1 of 1986 on Economic Management for Renewed Growth; 1989 - Introduction of Service Charges; 1989 - Promotion of Informal Sector through Jua Kali Program; 1990 - Review of consumer prices arising from the Gulf crisis; 1990 - Adoption of the United Nations Convention on the Rights of the Child.

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cultural practices (early marriage, adolescent pregnancy, circumcision, truancy, child abuse, broken homes), etc.

The group looked closely at the most frequently offered reasons for missing school. These include: (a) economic reasons for both boys and girls (need for child labour in the fields, as sibling care takers, etc.); (b) hunger; (c) poor health conditions; (d) distances of homes from schools; (e) failure of parents to contribute to school development; (f) peer influences and truancy. When considering differential educational and occupational aspirations for boys and girls, the group felt that indeed there might be differences along gender lines since often certain parents see boys as being attached to the family in the future; that is, it will be the boys that will provide economic security to parents and the community. However, it was observed that it is necessary to carry out field work to determine the extent to which these attitudes may be changing given apparent increasing enlightenment about the central role of women in society.

For the kinds of assessments needed on selected social, cultural and economic aspects, the group considered that it will be important to gather specific information on: (a) the most frequently offered reasons for school absences for both boys and girls; (b) repetition and dropout patterns along gender lines and the reasons cited for erratic attendance and school failure; (c) the home environment and the extent to which it is supportive (e.g., the educational level of parents, quality of habitation, space availability for homework, ventilation, ownership of material cultural goods, etc.).

The third working group focused on prevalent health and nutrition conditions in the school-age population, their causes, the kinds and levels of assessments required to measure these conditions, and cost-effective interventions that may be feasible for schools and community to undertake.

The most common health and nutrition problems identified appear in Table 6.

Table 6. Health/Nutrition Problems
Among School Age Children

- Malaria
- Intestinal Worms & Schistosomiasis
- Respiratory Infections
- Undernutrition
- Iodine Deficiency Disorders
- Iron & Vitamin A Deficiency
- Diarrhoeal Diseases
- Skin and Eye Infections

SOURCE: Workshop Participant Reports

A health assessment team (for example, a team composed of a nurse, a community health worker, a nutritionist, an education officer, a water technician, agricultural extension worker) could carry out the following in cooperation with the classroom teacher:

Malaria

Possible causes	Poor vector control and sanitation, little or no use of preventive measures (e.g., draining water, filling pits, introducing larvivorous fish, spraying)
Rapid assessment methods	Presumptive diagnosis on the basis of fever reported (over a defined period of time), data collected from records at the local health facility, if possible blood slides from a sub-sample
Tasks	Presumptive diagnosis, blood sample and analysis

Intestinal Worms and Schistosomiasis (Bilharzia)

Possible causes	Poor environmental sanitation, poor personal hygiene, lack of safe water supply
Rapid assessment methods	Self-reporting or observation of blood in the urine, stool examination for egg counts
Tasks	Take stool (and urine) samples; observe latrines for signs

Respiratory Infections

Possible causes	Poor living conditions and classroom environments (overcrowding, poor home ventilation), presence of other infections
Rapid assessment methods	Self-reporting, observation, number of cases reported (over certain time) at local health facility
Tasks	Observe children at school and in homes

Undernutrition

Possible causes	Inadequate food intake, food distribution in the family, poverty and poor purchasing power, food habits and taboos, food preparation methods
Rapid assessment methods	Anthropometric measurements (height and weight), age data, observation (e.g., hunger), self-reporting
Tasks	Take heights and weights, record age and make observations

Iodine Deficiency Disorders

Possible causes	Lack of iodine in soil and/or in foods (food habits and preparation)
Rapid assessment methods	Observe and palpate for goitre, data on goitre from local health facility, (blood sample if associated with the data collection of National Iodine Deficiency Disorders Survey)
Tasks	Observe and palpate for goitre, (perhaps collect blood specimens, see above)

Iron Deficiency

Possible causes	Presence of other conditions (malaria, intestinal parasites), inadequate dietary iron intake, poor environmental sanitation and vector control
Rapid assessment methods	Observation, data from local health facility
Tasks	Observe for signs of anaemia

Vitamin A Deficiency

Possible causes	Presence of other related conditions, e.g., undernutrition and measles, inadequate intake of Vitamin A rich foods
Rapid assessment methods	Self-reporting, observe for night blindness
Tasks	Observations

Diarrhoeal Diseases

Possible causes	Poor environmental sanitation and personal hygiene, lack of safe water supply
Rapid assessment methods	Self-reporting, observation, records from local health facility
Tasks	Observation, data collection

Skin and Eye Infections

Possible causes	Lack of adequate water supply, poor environmental and personal hygiene, crowded living conditions and classroom environments
Rapid assessment methods	Observation, self-reporting
Tasks	Observation

2. Sampling for the Assessment Studies

Following the protracted discussions during the **National Planning Workshop**, it was agreed that purposive and simple random sampling techniques should be adopted for selecting the number of schools, health facilities, and ultimately the number of pupils to participate in the assessment studies in the four districts where the first phase of the project is to take place. UNESCO was charged with the task of working closely with the Ministries of Education and Health and their field offices in the four districts in drawing out the samples for each unit of analysis and in making the relevant preparatory arrangements for the initial operationalization of the project.

Soon after the **National Planning Workshop** (during the months of November and December 1990), the UNESCO Adviser to the Government of Kenya on the project, Professor Nkinyangi, and teams of collaborators

from Education and Health travelled to the four districts and worked closely with the District Education Officers (DEOs) and the Medical Officers of Health (MOHs) in charge of those districts and their field officers in establishing the criteria for the selection of the schools and health facilities to participate in the project. The teams spent a week in Kwale, a week in Kisumu, two weeks in Meru, and a week and a half in Nakuru.

2.1. **Selection of Study Schools and Corresponding Health Facilities**

The Workshop had recommended that a five (5%) percent random sample of all schools in each of the four participating districts be taken. After the schools had been so chosen, the team would then identify the health facilities (hospitals, health centres, and dispensaries) in the vicinity of the selected schools. The rationale, or rather the assumption here, is that the health facilities in the vicinities of the schools are the health institutions that the pupils from those schools are most likely to seek health care from; hence, by studying and observing the prevalent health and nutrition conditions in those facilities, we would be able to gauge fairly accurately the prevailing health and nutrition conditions of the school-age population in the area and, therefore, to target subsequent interventions more appropriately.

The DEOs and the MOHs and their field officers were fully involved in the technical aspects of the sampling process. They were informed again (after the Workshop) of the scientific rationale and the merits of these procedures and about the use of the "Table of Random Numbers" which would be employed to selected schools (see ANNEX and below). At that point, it was also expected that a serial listing of all the schools in the district would be necessary and the local DEO was requested to furnish such a listing.

Various lists of schools were found to exist in different districts, most unsuitable for the exercise at hand, e.g., school [legal] registration (i.e., number assigned at the time a new school opened); listing of schools according to Teacher Service Commission criteria - [usually for payment of teacher salaries]; listing of schools according to registration for the Kenya Certificate of Primary Education (KCPE); alphabetical listing of schools; and simple serial listing of schools.

School Registration List:

By Kenya law, each new schools has to be registered with the Ministry of Education. This would be an ideal serial list of schools. However, after quick examination, the list was found highly erroneous and its use therefore discarded for the purpose at hand. It was found that many existing schools are actually "not registered". On the other hand, a number of "registered" schools, sometimes two, three, or even four, were found to be sharing a registration number.

Teacher Service Commission Listing of Schools:

Numbers in this listing were found to be discontinuous; perhaps duplicative. Unsuitable.

KCPE Listing of Schools:

This listing would not include schools not sitting for the final examination. Unsuitable.

DEO [Alphabetical of other] Listing of Schools:

In three of the districts, the DEOs were found to be keeping a reliable listing of schools. In one of the districts, there was both a general listing as well as an alphabetical listing. The decision on what list to use in each case depended on our judgement about the list which was likely to provide the most accurate number of schools in the district. In one case, the team had actually to reconstruct a listing of schools in the district since the information made available was patchy and likely to lead to serious errors due to the systematic exclusion of large numbers of schools from the sampling process. In all districts, however, the derivation of a usable list of schools was an exercise that turned out, quite surprisingly, to be more drawn out than one would have expected, especially in the larger districts, e.g., Meru, Kisumu and Nakuru.

After drawing out the list of schools in the District, the local DEO and the MOH and each member of the team were provided a "Table of Random Numbers" (see ANNEX). A detailed explanation on the rationale and use of these tables in sampling was provided. It was pointed out the tables of random numbers are based on the theory of probability. Random number tables are constructed in such a way that every number occurs with (approximately) equal probability. Further, the occurrence of any one number in a position is independent of any of the other numbers that appear in the table.

Following this, the DEO, or the MOH, as the case may be, was asked (without looking at the paper before him) to pinpoint a starting point in the rows and columns of numbers and having done so, decide on whether to select appropriate numbers across the rows or down the columns. Proceeding in this manner, they were instructed to announce loudly for the benefit of the others in the room (who served as recorders) the last digits of the numbers (in this case three) which were within the range of the numbers of schools in the district to be included in the sample, e.g., in Meru, 001-908; Nakuru, 001-356; Kisumu, 001-533; and Kwale, 001-244. The process would be completed when the requisite sample of schools had been selected, e.g., Meru, 45; Nakuru, 18; Kisumu, 27; and Kwale, 12 (see below).

Project Sampling Frame for Primary Schools to be Included

DISTRICT	N of Schools	5% Sample of Schools
Meru	908	45
Nakuru	356	18
Kisumu	533	27
Kwale	244	12
Total	2041	102

Subsequently, checking against the numbered list of schools, it could be ascertained which schools had been identified for the study sample in the district (see below). The participants in this exercise, particularly the DEOs, were able to confirm quite directly the validity and reliability of the method --- on the way it was able to provide a good "unbiased" cross-section of the schools in their district. There were many useful suggestions about how this or that DEO would from now on employ the procedure to select which schools he would inspect, which teachers he would monitor, etc. Similar use of this method was avowed by the MOHs.

After selection of the schools, the Education and Health teams huddled together again for the identification of health facilities in the vicinities of the selected schools. This part of the exercise required the pooled-knowledge and field experience especially of the district-level officers. This was an interesting activity to observe. It clearly indicated how knowledgeable Education and Health personnel are about each others facilities and institutions and therefore, again, underscoring the objective basis which exists on the ground in furthering collaboration especially at the level of planning, designing and implementing various school health interventions. The primary schools and their corresponding health facilities in each district are listed below.

Primary Schools and Corresponding Health Facilities

MERU DISTRICT

School	Health Facility
Barenta	Mutuati Dispensary
Kangenyone	Laare Health Centre
Kamugwe	Laare Health Centre
Mukululu	Kangeta Dispensary
Athi	Akachiu Dispensary
Abuuri	Akachiu Dispensary
Giika	Maua Hospital
Kiremu	Tigania Mission Hosp.
Our Lady H.C.	Muthara Dispensary
Rarimbu	Mikinduri Dispensary

Gacibine	Mikinduri Dispensary
Kaliati	Mikinduri Dispensary
Machaku	Miathene Health Centre
Kaliati	Mikinduri Dispensary
Ntoombo	Miathene Health Centre
Mwanika	Muthara Disp./Tigania M.H.
Thinyaine	Muthara Dispensary
Nabea Academy	District Hospital
Kiirua	Kiirua Dispensary
Nkunga	Naari Dispensary
Maritati	Timau Health Centre
Ndurumuru	Ex-Lewa Dispensary
Kiambogo	Timau Health Centre
Gitiye	Kaongo Dispensary
Manthi	Mitunguu Dispensary
Kathathene	Kaongo Dispensary
Kairaa	Kanyakine Dispensary
Kanyakine Boarding	Kanyakine Dispensary
Kianyaga	Kirogine Dispensary
Igoji	Cottage Hospital
Gatakene	Ithimbari Dispensary
Geto	Kinoro Dispensary
Nkio	Kanwa Dispensary
Ruguta	Kiini Dispensary
Muragara	Muthambi Dispensary
Ndagoni	Mpukoni Health Centre
Kiamaogo	Ngeru Dispensary
Ntumu	Ngeru Dispensary
Mautini	Magutuni Dispensary
Kanini	Magutuni Dispensary
Makambani	PCEA Kathuana Dispensary
Kambungu	Kajuki Dispensary
Kamariru	Tunyai Dispensary
Kanyuru Boarding	Tunyai Dispensary
Kathaga	Chiakariga Health Centre

NAKURU DISTRICT

School	Health Facility
Sinendet	Njoro Dispensary
Mwangi Michuki	Elburgon Health Centre
Keringet Estate	Keringet Dispensary
Our Lady o'Fatima	Bahati Dispensary
Gitwamba	Naivasha Health Centre
Tuiyotich	Rongai Dispensary
Wei	Subukia Dispensary
Chesoton	Njoro Health Centre
Kamunyu	Longonot Dispensary
Kanorero	Kiambogo Dispensary
Karai	Longonot Dispensary
Kichobo	Njoro Health Centre
Nderit	Kiambogo Dispensary
St. Brendans	Molo Dispensary
Chesirikwa	Molo Dispensary
Lalachtich	Molo Dispensary
Natu	Njoro Dispensary
Tiloa	Molo South Dispensary

KISUMU DISTRICT

School	Health Facility
Sunga	Chulaimbo RHTC
Masogo	Rabour Dispensary
St. Joseph's Ng'ula	Nyango'oma Dispensary
Moro	Pap Onditi Health Centre
Ogango	Kibos Dispensary
Oduwo	Menara Dispensary
Oboıa	Kombewa Dispensary
Maseno (Deaf)	Siriba H./Chulaimbo RHTC
Okago	Rabuor Dispensary
Bacho	Masogo Dispensary
Ramula	Masogo Dispensary

Obuolo	Kibos Dispensary
Omuya	Kombewa Dispensary
Ofunyu	Kibos Dispensary
Miwani Section 3	Chemilil Dispensary
Nduru Kadero	Kombewa Dispensary
Bar-Korwa (Moi)	Kombewa Dispensary
Aboge	Chulaimbo RHTC
Kadete	Rabuor Dispensary
Obuon	Pap Onditi Health Centre
Konim	Ahero Health Centre
Ngere	Manyuanda Dispensary
Amilo	Masogo Dispensary
Nyatao	Nyang'oma Dispensary
Nyamboyo	Manyuanda Dispensary
Wanangwe	Masogo Dispensary
Ochok	Manyuanda Dispensary

KWALE DISTRICT

School	Health Facility
Magaoni	Diani Dispensary
Mkanyeni	Kinango Hospital
Madago	Diani Dispensary
Mkwakwani	Diani Dispensary
Maphombe	Msambweni Hospital
Mwena	Lungalunga Dispensary
Mirihini	Mwaluvamba Dispensary
Mulunguni	Makamini Dispensary
Mzizima	Shimoni Dispensary
Tata	Kinango Hospital
Jaffery	Mackinnon Road Dispensary
Vanga	Vanga Health Centre

2.2. Selection of Pupil Samples in the Study Schools

The selection of pupils to participate in the study will also be undertaken employing purposive and simple random sampling procedures. The exact procedures and the actual sample size to be adopted will be determined at each school but the general determining principle guiding selection will be the same in all districts and schools. They are: representativeness of the pupil population in terms of grade levels (Standards) and class streams at the school, age profiles of the pupils, gender, stratification of pupils on ability levels (where this is practiced), etc. The overriding criteria all round is the selection of both schools and of pupils in those schools who give us a representative view of the health and nutrition conditions of school-going age populations in those districts and other districts which exhibit similar characteristics.

2.3. Development and Operationalization of Research Instruments

The research instruments for the project will be developed and operationalized according to the general and detailed criteria discussed under the preceding part of the Workshop report dealing with **baseline assessment needs.**

This will be done systematically in several stages:

(1) When the funding for the project has been formalized, a UNESCO Team will work closely with the National Inter-Ministerial Committee which will serve as a link between UNESCO and the Kenya Ministries of Education and Health and the District-level teams involved in the project (DEO's and MOHs and their staffs). The UNESCO Team will advise on the various technical aspects of project planning, implementation and evaluation.

(2) The research instruments to be used for gathering different types of information (see earlier discussion in this report on the *education assessments, social, cultural and economic assessments* needs) will be developed and pretested by the UNESCO Team

and the National Inter-Ministerial Committee in cooperation with the Ministries of Education and Health.

(3) Similarly, working in close consultation with the National Inter-Ministerial Committee, the UNESCO Team will assist in the development and pre-testing of the particular instruments and methods to be used for collecting health and nutrition related data. UNESCO will also recommend the composition of teams for collecting and devising the relevant interventions to address these conditions.

(4) A major task of the UNESCO Team and the National Inter-Ministerial Committee will be not only to finalize the preparatory activities which have already been initiated but even more importantly to draw up the future *programme of work* for the project's various activities in the different districts right through to the key phases of datagathering, data analyses, and draft report writing.

(5) A small planning workshop, consisting of the DEOs and the MOHs in the four districts, the UNESCO Team, members of the National Inter-Ministerial Committee may be necessary at this point to review the experience so far and to arrive at a consensus on the proposed *programme of work*.

2.4 Datagathering and Data Analyses

Actual data collection will be undertaken by Education and Health personnel in the field. The project will undertake an experiment in the use of teachers and health facility personnel in the gathering of specific health and nutrition related data on school-age children. In particular, the project will attempt to train Education and Health personnel in the field in the collection of more complete data. For Education, in particular, an attempt will be made through the project to train school inspectors to collect data on schools, teachers, pupils, etc., in a way which is systematic, valid, and reliable. Overall, the project will make a major effort to tap the erstwhile neglected official records as sources for data and information on communities, health, schools, and other facilities, and on the welfare of school-age children.

Datagathering will, of course, combine both qualitative and quantitative methods. Proposed qualitative methods include in-depth unstructured interviews and discussion with groups of persons or individuals, focus-group discussions with key participants, and observation. Quantitative datagathering methods will include traditional survey methods complemented by the use of the official record.

The data and information so collected will be subject to relevant social and bio-medical statistical procedures. The UNESCO Team will be responsible for the assignment of various tasks involved in this process in collaboration with different Government of Kenya data processing facilities (e.g., Central Bureau of Statistics, the national universities, etc.) and members of the National Inter-Ministerial Committee.

2.5. **Final Project Report and Future National Planning Workshop**

The report writing, summarizing the research results as well as the overall experience under the project, will be the overall responsibility of the UNESCO Team, working in close collaboration with the Ministries of Education and Health and the National Inter-Ministerial Committee.

It is proposed that when a draft report is ready, another National Planning Workshop (à Nakuru) be convened to review the entire process of the first phase of the project and to draw conclusions on the next steps, including any recommendations for stepping up the project to the national level and the cost and other implications of so doing.

ANNEXES

ANNEX I

Government of Kenya/UNESCO
NATIONAL PLANNING WORKSHOP

"Child Health, Nutrition and School Participation"

29 October - 2 November 1990
Nakuru, Kenya

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ANNEX II

Government of Kenya/UNESCO
NATIONAL PLANNING WORKSHOP

AGENDA

Monday 29 October 1990

4:00-6:00 p.m.	*Arrival of Participants in Nakuru*

Tuesday 30 October 1990

9:00-9:45 a.m.	***Official Opening*** *Hon. Minister for Education*
9:45-10:30 a.m.	***Address from the Permanent Secretary,*** *Ministry of Health.* *Mr. D. Mbiti*
10:30-11:00 a.m.	*--- Tea Break ---*
11:10-12:30 p.m.	***Presentation by UNESCO*** *Dr. Susan Van der Vynckt* *Professor John Nkinyangi*
12:30-1:00 p.m.	***Discussion and Comments***
1:00-2:00 p.m.	*--- Lunch ---*
2:00-2:20 p.m.	***Macro Economic Factors*** *Mr. G. K. Ikiara,* *Department of Economics,* *University of Nairobi*
2:20-2:40 p.m.	***Challenges for Educational Planning*** *Mr. J. B. Ndungu,* *Ministry of Education*
2:40-3:10	***Primary Health Care and Health Services*** *Dr. Mwanzia* *Ministry of Health*

3:10-3:30 p.m.	***Discussion and Comments***
3:30-4:00 p.m.	*--- Tea Break ---*
4:00-4:30 p.m.	***Nutrition*** *Mrs. J. Meme* *Ministry of Health*
4:30-5:00 p.m.	***Micro-Nutrients*** *Mr. T. N. Omondi,* *Ministry of Health*
5:00-5:30 p.m.	***Bio-medical Data*** *Mr. E. Kangwana,* *Ministry of Health*
5:30-6:00 p.m.	***Discussion and Comments***
6:30-10:00 p.m.	*--- Dinner Reception ---*

Wednesday 31 October 1990

8:30-9:00 a.m.	***School Milk and School Feeding Programme*** *Mr. R. K. A. Towett,* *Ministry of Education*
9:00-9:30 a.m.	***Nutrition and Health*** *(Research and Teaching at University Level)* *Professor Ruth Oniang'o,* *Kenyatta University*
9:30-10:00 a.m.	***Role of Tertiary Institutions*** *Dr. A. J. Sigot* *Department of Home Economics* *Kenyatta University*

10:00-10:30 a.m.	*--- Tea Break ---*
10:30-11:00 a.m.	***Presentation by UNESCO*** *(i) Formation of Discussion Groups Working Group Discussions (groups to be composed around key issues--- education, nutrition and health, and other factors) on Assessment Needs and Intervention Options* *(ii) Formation of Field Trips*
11:00-1:00 p.m.	***Group Discussions***
1:00-2:00 p.m.	*--- Lunch ---*
2:00-4:00 p.m.	***Continuation of Group Discussions***
4:00-4:30 p.m.	*--- Tea Break ---*
4:30-8:00 p.m.	***Continuation of Group Discussions***

Thursday 1 November 1990

7:00 a.m. to 6:00 p.m.	***Field Trips** to selected communities in Nakuru district--- to observe pertinent conditions and to discuss relevant issues with local government education and health officials, teachers, pupils and parents in selected communities.*

Friday 2 November 1990

8:00-9:45 a.m.	***Group Reports on Field Trips***
9:45-10:30 a.m.	***Comments on Group Reports***
10:30-11:00 a.m.	*--- Tea Break ---*

11:00-1:00 p.m.	***Group Discussions*** *Review of field visit observations and discussion on operationalization of pilot project activities*
1:00-2:00 p.m.	*--- Lunch ---*
2:00-4:00 p.m.	***Continuation of Group Discussions***
4:00-4:30 p.m.	*--- Tea Break ---*
4:30-6:00 p.m.	***Final Plenary Session*** *UNESCO* *Ministry of Education* *Ministry of Health*

ANNEX III

Government of Kenya/UNESCO
NATIONAL PLANNING WORKSHOP

Opening Address by
The Minister for Education

HONOURABLE PETER OLOO ARINGO, M.P.

Mr Chairman,
Distinguished Guests,
Ladies and Gentlemen,

It gives me great pleasure to be present here during the opening of this very important **National Planning Workshop** on *"Child Health, Nutrition and School Participation"* organized jointly by UNESCO and the Government of Kenya. This workshop is fully sponsored by UNESCO and the Kenya Government appreciates greatly this generous gesture.

Let me take this opportunity to extend a word of welcome to colleagues and friends from UNESCO who have worked so hard to make this Workshop a reality. Similarly other invited guests (both local and from other countries) are most welcome to this important occasion.

Mr Chairman, may I at the outset thank very sincerely UNESCO for its decision to include Kenya as one of the countries participating in the global programme on child health, nutrition and school participation. I have learnt that the other countries involved in the initiative are Jamaica, Thailand and Zimbabwe. It is noted that the Kenya country project will address issues of child health and nutrition and their inter-relationship to access to education and progress of children through schooling.

The planning of this new international initiative by UNESCO was started in April 1989 in Stockholm, Sweden after a meeting of international experts from the World Health Organisation, UNESCO, UNICEF, the World Bank and the World Food Programme. The group looked at links between child health, nutrition and educational participation and considered possible interventions to improve child health, nutrition and learning opportunities.

The aim of this **National Planning Workshop** is to identify problems which hinder better educational performance by school children (e.g. poor nutrition, diseases, etc.) and suggest possible intervention measures. The educational outcome measures such as attendance, performance, repetition and drop-outs can be affected significantly by nutritional and health problems facing school children, especially in the less advantaged areas of the country.

Mr Chairman, I wish to inform the workshop participants that the government of Kenya has, since the late 1970s, initiated some intervention measures to improve the children's health and school participation. These include the following:

School Milk Programme

The School Milk Programme was started in May 1979 as a result of a Presidential Directive. It is fully financed by the Kenya Government. The Programme covers the whole country, and milk is purchased from the Kenya Co-operative Creameries Limited and supplied to all primary school children twice a week. Each child takes 0,2 litre per feed or 0.4 litre per week.

The Presidential Directive on the provision of milk to all primary school children throughout the country was expected to have two important effects, namely:

- improvement of the nutritional and health status of the school children, and the

- improvement in school performance and attendance of the beneficiaries.

The School Milk Programme now assists over 5.3 million primary school children.

School Feeding Programme

This is a joint programme of the Government of Kenya/Food and Agriculture Organization/World Food Programme which was started in 1981. It covers pre-primary and primary schools in 19 districts situated in arid and semi-arid areas of the country. To date the programme benefits 719,000 children in 4,300 pre-primary and primary schools.

The objectives of the School Feeding Programme in Kenya are as follows:

(a) To motivate enrolment and attendance levels in schools.

(b) To provide a mid-day meal to pre-primary and primary school children in arid and semi-arid areas of the Country.

(c) To improve nutritional and health status of the pre-primary and primary school children.

(d) To improve eating habits and learning ability for effective use of educational facilities.

(e) To extend and up-grade primary education in the most deprived regions of Kenya through improvement of enrolment and attendance.

National School Feeding Council of Kenya

This is a non-governmental organisation which also undertakes school feeding programmes in primary schools. It was started in 1967 with the aim of providing school meals in areas of most need. At present its policy is to encourage school feeding in areas where the parents can afford to maintain the programme. This means that the National School Feeding Council of Kenya operates only in better endowed areas of the country.

The programme also depends on sponsorship from other non-governmental organizations and individual donors. The Government of Kenya provides an annual grant to the organization to assist in its programmes.

The Government of Kenya also encourages the feeding of children in pre-school centres, managed either by communities, institutions or individuals. This encouragement is done through the National Centre for Early Childhood Education (NACECE) which is based at the Kenya Institute of Education (K.I.E).

Mr Chairman, may I, at this juncture, also inform the workshop participants that the Kenya government spends a substantial part of its annual budget on education. 40% of the National Budget goes to education and 60% of the Ministry of Education Budget goes to primary education. 9% of the primary education budget is allocated to School Milk/School Feeding programmes. The large share of the National Budget given to Education shows that the Government attaches great importance to the role of education in national development.

Mr Chairman, may I also enlighten the participants that my Ministry has introduced the teaching of Home Science in both primary and secondary schools under the 8:4:4 system of education. Home Science is now a compulsory subject in primary schools and is an elective subject in secondary schools. In the Home Science Curriculum, topics such as good nutrition, proper eating habits, food hygiene and health care are taught.

Observations have proved that child participation in schools is largely affected by poor health. A sick child, for example, is not able to concentrate in school due to discomfort whether mild or a serious one. The health of a child is very important and can only be maintained if good nutrition and health care are provided adequately. A child must also be healthy if normal growth and development is to take place. Ability to perform well in school at all levels depends on the health of the child. When the child has pain or is hungry, the brain is also affected and this interferes with normal thinking. As a result the general school curriculum has always played a very important role in the promotion of child health and nutrition.

The teachers in pre-primary and primary schools can ensure that the children practice rules of good hygiene such as keeping their bodies clean, wearing clean clothes, cutting nails and keeping them clean, etc. This is because there is need for them to form good habits at this early stage of development.

Along with this, other programmes are available in schools and are also aimed at promoting good nutrition which as a result contribute to good health among the children. Such programmes are:

1. **School Lunch:** *School Committees* are encouraged to provide lunch to children. This is to ensure that no child goes without lunch. A simple well-prepared balanced and warm meal at low-cost is provided to children.

2. **School Milk:** Children who may have gone to school without breakfast or may have eaten a poor breakfast always benefit from the School Milk Programme which provides a good source of protein as a body building material.

3. **Medical Check-up**: Pre-primary and primary school children are checked regularly in their schools. If found sick, a child would be referred to the hospital or parents are requested to attend to a particular child's health problem.

4. **Special School Broadcast:** Educational Media Service has a programme on *"health, nutrition and sanitation"*. The programme is prepared by the Home Science curriculum developers at the Kenya Institute of Education. In addition to schools, families do listen to such broadcasts and find them useful. It should be noted that provision and maintenance of health/nutrition is the concern of many sectors - health, education, community development, water, agriculture, etc.. Strong and effective linkages of sectors should be maintained.

Mr Chairman, I wish to stress that education is certainly a very important development tool. It is, therefore, imperative that determinants of quality education be addressed. These include availability of adequate physical and educational facilities, qualified personnel, etc.. Generally nutrition and health factors have not been incorporated into educational planning efforts, nor are they used to explain poor enrolment and wastage. This has been primarily because there has been little research to document the association between educational performance and health and nutrition issues.

However, it is now becoming increasingly evident that such an association does exist. Efforts to try and partly meet the nutritional and health needs of school children, in order for them to have good physical and mental development, should be initiated. Such efforts include school feeding programmes, strengthening on-going government efforts, school health programmes, for instance deworming, micro-nutrient supplementation, etc.

In a nutshell the children are bound to perform better in educational examinations at all levels if they are brought up in a healthy environment.

In conclusion, Mr Chairman, I wish to commend once again the organizers of this National Planning Workshop. Success of a national event of this magnitude demands hours of hard-work, consultations and making of right decisions. I would also like to encourage the participants in this workshop to fully utilize the information, skills and knowledge gained at the end of the Workshop to implement the Kenya country project. It is hoped by my Ministry

that you will have fruitful deliberations and recommendations, resulting in writing of a project document and its implementation at an early date.

And with these few remarks, Ladies and Gentlemen, it is now my pleasure to declare this National Planning Workshop officially opened.

Nakuru, Kenya
30 October 1990

Opening Address by

MR D. MBITI
Permanent Secretary,
Ministry of Health

Mr Chairman,
Guest of Honour,
Distinguished Guests,
Ladies and Gentlemen,

I am delighted to be associated with the Opening of this important **National Planning Workshop**. I take this opportunity to thank UNESCO for funding this workshop and for the future support. I also congratulate the *Inter-Ministerial Steering Committee* for the hard task that they have undertaken to prepare for this workshop. The collaboration and co-operation that they have shown so far is an indication of a future partnership in implementing this project. There are very few projects that the two Ministries have undertaken together and, this one, is an indication of better understanding on what happens in different Ministries. Many times we duplicate efforts because of lack of collaboration.

The Ministry of Health has in the past been concentrating on a number of *Child Survival Programmes*. These are all intervention programmes on preventive measures. Such programmes include growth monitoring, control of diarrhoeal diseases, breastfeeding and immunization and micronutrient deficiency disorders. Growth monitoring aims at monitoring the growth of children to detect weight faltering and, therefore, intervene when signs of danger appear. It gives a chance for health workers to work closely with the mothers and counsel them on how best they can take care of their children. The control of diarrhoeal diseases is a relatively new programme, but since its inception in this country, many mothers and health workers are now aware of how they can prevent diarrhoea in children, as well as being able to detect signs of dehydration and its treatment. Breastfeeding has in the past few years been emphasized both in maternity hospitals, as well as in the community. Immunization coverage has been quite high and most children are now immunized, and this has reduced the incidence of immunizable diseases. All these programmes have been aimed at children under five years of age. There has been an attempt to establish school health programmes, however, not much success has been realized. We know that a strong house is one with a strong foundation, therefore, when steps have been taken to improve the health of children under five, then we are sure of a good start in schools by healthy children. The UNESCO initiative is concerned with the child's nutrition, health and their school participation.

A healthy child who is well-fed is alert and his/her span of concentration is very high. A hungry, sick child, no matter how hard he/she tries cannot concentrate well in his/her studies. Therefore what we are saying is that nutrition and good health play a major role in school participation and performance.

Although very little has been done as far as health programmes are concerned, the Ministry of Health ensures that schools have good sanitation and possible source of clean water. The sanitary facilities are determined by the population of the school. The Public Health Officers in the field have the responsibility of regular school inspection where possible. In such inspections, these officers are concerned with the sizes of classrooms, their ventilation and the number of toilets the school has. The ventilation should be at least 20% of the classroom area.

It is my hope that this project will help to intensify the little that has so far been done. Some schools already have some feeding programmes either through arrangement by parents or through the Ministry of Education Feeding Programmes. It is an indication that the parents already are aware of importance of good nutrition for their children. In the implementation of this project, the Ministry of Health will then take a great part by using the health personnel in the field to teach the community on how best they can feed school age children. This teaching could either be done through education seminars in schools or in public market places. Where possible, schools can identify teachers who can be trained to be in charge of health matters in their schools. Teachers know their pupils well and, therefore, they are often the best people to be used, as they can identify those pupils who have some of these basic problems.

In the nutrition tasks, mothers can be made aware of the importance of having kitchen gardens at home and at school. Teachers can be encouraged to have school gardens which can supplement some of the foods that might be lacking in the existing school feeding programmes. These are growing children and, therefore, need those food nutrients that are very necessary at this age. Therefore, emphasis must be laid on eating vegetables and fruits which are so often overlooked.

Micronutrient deficiency disorders usually occur where there is lack of these nutrients. The Ministry of Health has therefore the Iodine Deficiency Disorders Programme which is concerned with school age children.

This workshop is for planning the implementation and future monitoring of this project. I am sure that you will come up with a number of recommendations at the end of the week. In hope that these recommendations will be useful in making these decisions on where to go next. I now wish you all a good stay in Nakuru and wish you all the best in your deliberations. I want to assure you that my Ministry will be a full participant in whatever decisions you come up with.

29 October 1990
Nakuru, Kenya

Closing Speech by the Deputy Secretary, Ministry of Health

MR J.G. NJOROGE

UNESCO Representatives,
Distinguished Participants,
Ladies and Gentlemen,

As we come to the close of this **National Planning Workshop**, I would like us to ask ourselves what we have achieved during the one week we have been in Nakuru. Personally, I feel that the workshop has been an "eye opener" and will go a long way in helping us to charter a plan of action aimed at addressing the welfare of primary school-age children and the complexity of problems facing our primary schools. Through our discussions and subsequent field visits to schools, health centres and communities in Nakuru District, it is now clear that we have got a big challenge ahead.

It is heartening to point out that during the workshop we have attempted and, indeed, succeeded to identify some of the problems and constraints which are and may likely affect or hinder our efforts to provide primary education to all our children.

For example, there is a need to create an enabling environment not only for the pupils but also for the teachers. This could be done by providing teachers with the necessary teaching facilities and teaching materials which have been observed to be lacking in some schools and by ensuring that the classrooms are adequately spacious to accommodate the appropriate number of pupils. Through our field visits, we further realized that such factors as economic status of the family and cultural habits may adversely affect the participation of children in school. The negative cultural factors should be discouraged through education of the community concerned. There may be the need to create greater awareness among parents in some of our communities on the importance of educating the children, girls as well as boys.

The success of our *primary health care programme* depends on the extent to which we succeed in effectively involving communities in health promotion. But, as we have now realized, this cannot be achieved only by the Ministries of Health and Education. A multisectoral approach will be necessary if our goals are to be attained. For example, the Ministry of Agriculture will need to advise and implement sound agricultural programmes with appropriate farming methods for different parts of the country. The Ministry of Water Development will need to device ways of making clean water available to the communities. There is the need to involve the legislators and persuade them to come up with suitable legislation on land and property ownership. These are just but a few examples of how other sectors would have to be involved if the project is to improve child health and educational opportunities.

In the past, when we spoke about malnutrition among children and mothers, we had the tendency to give more attention to population groups living in arid areas. However, from our field visits carried out this week, it is evident that the problems are equally common in the so-called potential districts. It seems necessary to review our thinking and carry out a thorough assessment in different geographical areas of the country.

In conclusion, I feel that this powerful group of participants is more aware of the problems and there is no doubt they are capable of working out solutions. There is a Chinese saying which states *"to know and not to do is indeed not to know"*.

2 November 1990
Nakuru, Kenya

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ANNEX IV

Extract

Table of Random Numbers

44955	16384	62827	82305	32836	96761	11602	81743	04141	47108
17932	78415	89813	17856	00680	71694	52288	75979	33302	99361
41763	11665	63153	43438	46603	03827	29956	00038	75401	94972
24368	09593	27757	44838	12770	91420	93676	66719	90221	16232
15642	24041	12815	18518	06378	99162	40329	24883	46760	26236
85537	15524	99132	95641	43956	98043	60034	02098	30631	12463
15677	42470	26268	40123	29130	50944	39644	13782	03367	77646
48595	88058	73988	87135	22800	20225	53898	45156	63801	34295
41738	27261	14091	40545	09782	97321	28817	81141	37045	11829
54523	09552	56660	53594	56115	56811	60488	23350	44662	77605
89334	90573	07140	59493	51322	97035	79963	62688	01059	37140
58339	58474	48617	34156	08020	37190	55787	46350	86923	42659
54199	58469	07812	10144	12042	02875	65886	32141	77782	81310
19148	30559	59869	13381	30812	42690	11672	62036	51495	38737
48331	65457	13151	59708	88927	51889	98772	73912	16399	37448
25293	52004	49064	12356	75433	73997	53983	52831	12185	76572
63951	93582	82641	51223	43848	93627	92107	17974	15294	94484
29565	62944	74131	26636	26962	21246	34327	05938	79038	97533
01089	21886	15310	67429	63405	63559	34930	68284	60604	48349
60220	63072	26778	59404	04745	44621	38544	85741	83060	96768
79683	54745	94840	86867	07609	58465	52296	32327	63997	53752
53064	18997	08430	77163	92571	80804	65540	16726	72245	94150
33819	07200	74681	57676	93974	17337	91193	82123	24452	78148
64553	23559	80327	45480	24850	41763	13819	70349	07650	57147
32597	64944	71337	48485	19982	30264	91456	37063	39605	54095
17544	50752	91544	93192	58536	84910	03137	50084	05482	67794
24026	54944	37891	13879	67888	88580	60992	91701	39938	49102
87362	32581	05670	90871	59193	71763	00730	43520	69073	30795
41673	16726	62427	18765	41364	87630	12355	95964	24665	96386
97223	50516	94212	70881	45125	59221	91447	28360	03518	40692
04146	49156	14321	30145	57476	26316	57831	21491	50325	79647
23432	90904	87099	30489	97607	11283	99215	47428	72654	58559
74381	28845	29786	66906	26377	96663	42434	83312	05480	72825
72999	12066	87644	29770	65753	64923	93435	03391	44963	76260
05670	41529	91943	47655	48027	24013	48716	79298	70093	13525
24179	78159	53752	08593	28764	08332	58345	83802	24289	27143
89836	35105	97261	96261	50601	14638	97187	20524	59107	53331
83810	31299	20328	24967	37923	25802	91158	79410	49566	63902
25069	64048	17067	73386	99206	77203	97801	49056	76395	19221
69768	65339	24077	45499	17472	09554	16845	75439	23694	10906